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CHICAGO MEDICAL EXAMINER

N. S. DAVIS, M. D., EDITOR.

AND

F. H. DAVIS, M. D., ASSISTANT EDITOR.

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EDITED BY
N. S. DAVIS, M. D., and F. H. DAVIS, M. D.

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MEDICAL EXAMINER:

N. S. DAVIS, M. D., EDITOR.

F. H. DAVIS, M. D., ASSISTANT EDITOR.

VOL. XII. OCTOBER, 1871. NO. 10.

ORIGINAL CONTRIBUTIONS.

THE UNITY OR DUALITY OF THE SYPHILITIC VIRUS.

By EDMUND ANDREWS, M. D., Professor of Principles and Practice of Surgery in Chicago Medical College.

THE Franco-German war interrupted a scientific controversy on this subject, which had lasted with remarkable fluctuations for nearly forty years. The ancients do not seem to have had any such question before them until the great venereal epidemic which commenced at the siege of Naples, near the end of the 15th century. At that time the physicians seem to have recognized two diseases, but their successors gradually adopted the idea that all the venereal diseases were essentially one, which state of opinion continued without much discussion until 1831. At that time one of the most remarkable men ever enrolled in the ranks of surgery commenced a series of experiments upon venereal diseases by inoculations.

This man was Philip Ricord, Surgeon of the *Hôpital du Midi* in Paris. Ricord had an immense talent as an experimenter, and possessed a clear and powerful mode of stating his propositions. To these good traits he added a habit of bearing down opposition by a confident air, a domineering manner, and by offensive personalities applied to his opponents. His love of confident statements verged toward disregard of truth, leading him to assert as positive very much that was doubtful, and even to contradict his own previous statements, when the drift of his new arguments seemed to require it. By the help of these varied qualities he got himself looked upon as a hero, and may be said in a certain sense to have bound French scientific thought and dragged it by the heels behind his chariot. Having carried on his experimental inoculations with great ability for seven years, he brought out the results in 1838 in his famous work, *Traité Pratique des Maladies Vénériennes*, and repeated them in 1840, in annotations upon his translation of Hunter's *Treatise on Venereal Diseases*.

These works were of great value to the progress of syphilology, and created an immense enthusiasm. In the first treatise he set forth among many others, the following important doctrines.

First. A syphilitic virus does exist.

Second. There is but one syphilitic virus.

Third. The only constant and decisive symptom of chancre is not color, hardness, etc., but solely the secretion of pus with infecting qualities.

Fourth. The only vehicle of the poison is the pus, and secondary and tertiary symptoms are not contagious.

Ricord, therefore, commenced as an advocate of unicity, and asserted the doctrine with all that audacious positiveness which gave him such a control over the minds of his disciples. One of his doctrines, however, contained a seed which ultimately germinated and overturned his own position. It was contained in these words: "An indurated chancre, or constitutional syphilis is only communicable once in a person's life-time."

In the mean time, Ricord's doctrine that secondary syphilis was not contagious, was being undermined. Wallace, a very thorough and careful investigator in Dublin, had observed many instances of secondary contagion, and had demonstrated by experiments that secondary disease was certainly transmissible. (London Lancet, Vols. 31 and 32.) Ricord and his disciples, however, entirely ignored all investigations which had not been made in Paris, and went on asserting the non-contagiousness of secondary syphilis.

The matter was taken up, however, by Waller, of Prague, who published in the *Prague Quarterly* in 1851, a series of observations and experiments, some of which were repeated by Wallace. In these cases it was shown over and over again in the most careful manner that healthy children took syphilis from nurses, having only secondary disease, that nurses took it from children in the same stage, and wives from their husbands. Experiments showed that pus from condylomata lata, and even the blood of secondary syphilitics, would by inoculation reproduce the disease on healthy persons. The German surgeons, Bärensprung, of Berlin, Rinecker and Lindmann, all followed suit with separate experiments, abundantly establishing the same doctrine. Ricord at first attempted to oppose these results by his customary fusillade of sarcasm and personal abuse, but he was shortly silenced by a cannonade of facts and compelled to acknowledge his blunder. The French surgeons, who had made a sort of demi-god of Ricord, were deeply chagrined at his defeat and scarcely knew what to do with themselves. Residents in Paris describe them as having been about as inconsolable, as they were afterwards when the Germans took the city.

But the prestige which the French lost in one way they regained in another. Bassereau, a disciple of Ricord, in 1852 brought out his *Traité des affections de la peau symptomatiques de la syphilis*, in which the great doctrine of dualism was, in our day, first distinctly propounded. He made a large number of careful observations and experiments, and showed by what he called "*confrontations*,"

that is, the comparison of each case with the one from which its contagion was derived, that there are two distinct diseases, one chancroid, which is a purely local disease, has a suppurating bubo and never infects the constitution; the other the hard, or infecting chancre, which always infects the constitution. He called the first "*chancre with suppurating bubo*," and the second "*chancre which precedes constitutional infection*." In 1854, Clerc, of Paris, came out in advocacy of the same doctrine, calling the soft chancre "*chancroid*," and maintaining that there were two distinct diseases, and that each propagated its own kind exclusively. Rollet, of Lyons, and others, next brought out the theory of "*mixed chancre*," showing that when both kinds of virus were inoculated in one spot, a mixed form of ulcer ensued, having the characteristics of both predecessors.

The famous doctrine of dualism was thus fully constructed. Ricord himself adopted it, though it required him to abandon another of his original propositions, (the one which asserted that there was but one syphilitic virus,) and it soon swept over the whole of Europe. In 1861, Dr. Bamstead, of New York, published a work on venereal diseases, in which he advocated the new European ideas, and became a prominent means of causing dualism to be generally accepted in this country.

The dualistic theory thus gained a great and almost universal triumph, though a few resolute unicists still stood out. Prof. Gross, of Philadelphia, never surrendered; Vidal, in France, continued to fight the new theory violently, while in Germany, Hebra and Michaelis, and in Scandinavia, Bæck, Bidenkap, and Danielson, stubbornly held their ground.

Bæck, of Christiania, was engaged extensively in the cure of secondary disease by syphilization. In this treatment he inoculated his patients over and over again with virus from syphilitic sores. The patient being already under the influence of disease, of course the product of inoculation upon him was only soft chancre, but Bæck, who was a unicist, believed that all syphilitic sores were of the same nature, and that by mak-

ing them in large numbers on the patient, he hastened on the progress of the disease, and got the patient much sooner through it into perfect health. In the course of his experiments he discovered that the statements of the dualists, first put forth by Bassereau, that each kind of chancre propagated only its own species, was false. He proved beyond dispute that though the secretion of a hard chancre in a non-inflamed state produced no effect on a syphilitic patient, yet the same sore, when irritated until it secreted a thick pus, gave origin to matter which would produce soft chancres. In fact, Bœck used habitually to obtain new supplies of soft chancre virus for his patients by irritating either hard chancres or secondary sores, such as mucous patches, until they suppurated freely.

Bidenkap, the pupil of Bœck, and Köbner of Germany instituted careful experiments by inoculation, and arrived with more precision at similar conclusions, which may be stated as follows :

1. The secretion of an unirritated pure hard chancre produces pure hard chancre on persons who have never had constitutional syphilis.
2. On those who have already had the disease it produces nothing.
3. If now you irritate the same hard chancre until it secretes a thick pus, it will produce on a syphilitic man genuine soft chancres, which can be repeated upon him a great number of times. In short, the virus of soft chancre comes from an inflamed hard one.

These experiments shook the foundations of dualism like an earthquake, and many eminent men abandoned the theory, declaring it no longer tenable, while its remaining adherents were taken by surprise and unable to see exactly how they were to defend themselves. Of course the unicists were jubilant over their remarkable victory.

Such was the position of the contending parties when the thunder clouds of the Franco-German war rolled across the field, and compelled a cessation of hostilities. On reviewing the whole matter, it is evident that some of the most confident

assertions of the dualists are overthrown, and it must be confessed that the whole theory is in a dilapidated condition, yet in some points it may still be defensible. We must apparently admit that the virus of soft chancre may be produced at will by irritating a hard chancre, but are we on that account sure of the identity of the two? Being aware that one sore may give exit to several chemical compounds, are we sure that it may not give origin to two poisons? The clinical history of cases, would suggest the conclusion that if a person who is insusceptible to hard chancre and to constitutional syphilis in consequence of having gone through them—if such a person were inoculated with a mixed virus from an inflamed hard chancre, his system, proof against the virus of the hard sore, would propagate and transmit to others only the soft one, thus producing pure and unmixed soft chancres, free from all contamination of the hard ones. If facts should prove such a result, they would seem to establish a kind of modified dualism.

More experiments are needed to settle this point, but the following certainly look in that direction.

1. Bidentkap reports a girl in hospital and free from syphilis. Being in a ward where patients were being syphilized, she by means of a pin inoculated herself in sport from one of the soft chancres of a patient undergoing that treatment. She had a regular soft chancre, but though carefully watched, and examined once a week for two years, she had no indurated sore, nor constitutional disease. At the end of that time she got syphilis from a new source, which was shortly followed by constitutional disease. Here certainly seemed to be a case of soft chancre which was quite free from the virus of the hard chancre.

2. Another girl did the same thing, and the ulcers were repeated upon her some twenty times by Bidentkap. Although kept under observation nearly a year she showed no secondary symptoms.

3. Danielson of Christiania tried syphilization on leprosy. The leprosy was not cured, but the following important case occurred. One of the lepers was inoculated for six

months from soft chancres, having nearly three hundred soft chancres in all. Up to this time, no true syphilis showed itself. He was then inoculated from a hard chancre, and in the usual time had constitutional syphilis.

4. Auzias—Turenne proved that the inferior animals could have soft chancre, but not constitutional syphilis. The surgeon Diday, who had never had syphilis, inoculated a chancre on the head of a cat. From this he inoculated his own penis, which produced a soft chancre and an obstinate suppurating bubo. No constitutional syphilis followed.

5. Robert de Weltz in the same way inoculated a monkey's ear, and from the sore resulting inoculated his own arm. He had a troublesome ulcer, and suppurating glands, but no constitutional syphilis.

It can not be said that these experiments fully settle the question, but I think the following conclusions will be ultimately arrived at.

1. There are two kinds of virus.

2. A pure, uninfamed, hard chancre gives out only the hard chancrous virus, but if it be irritated until it secretes thick pus freely, it will yield both kinds.

3. If this double virus be inserted into a healthy animal, or a man insusceptible to hard chancre and to constitutional syphilis, the soft chancre only is produced.

4. If the virus of this last soft chancre be inoculated into any person whatever, it will probably produce only pure soft chancre, and no constitutional disease.

If these conclusions shall be ultimately sustained, dualism will after all win a sort of victory, the two kinds of virus will be proved, but it will be a barren conquest, because the two poisons are so intimately connected, that the surgeon can hardly ever rely on the absence of the poison of the hard chancre, and hence he will be compelled to practice very much like an unicist.

The fluctuations of this remarkable controversy are adapted to arouse indignation in a thinking mind. What is the use of science in the hands of men who contrive, not how to bring out

solid and permanent truth, but only some startling conclusions upon which to base a reputation? Who are these pseudo-great men, to whom we have given the highest honors of science for forty years, for telling us, first that the syphilitic virus is single, then that it is undoubtedly double, then again that it is single, and finally that they don't know which it is? Would any blockhead have done worse by simple guess work? There is only one remedy for this foolery, and that is to leave off honoring men for half made discoveries, and to scourge with the lash of criticism and contempt all efforts to place crude and ill sustained opinions in the rank of ascertained truths.

NO. 6, 16TH STREET, CHICAGO.

A BRIEF SKETCH OF A FEW EXTRAORDINARY SURGICAL CASES.

BY E. R. WILLARD, M. D., Wilmington, Illinois.

CASE I. Mr. B., a short, robust man, of motive temperament, about 40 years of age, employed at the Wilmington coal mines to work in the "Y" shaft, while somewhat intoxicated on the evening of September 20th, 1868, accidentally walked into the shaft at the top of the ground. As the cage was at the bottom at the time, a distance of some sixty-eight feet, and the sides of the shaft as smooth as a floor, one would suppose that a man making such a leap and striking upon a solid platform, would be instantly killed; but such was not the case. He was immediately discovered, in an insensible condition, and taken out of the shaft to his boarding-house. The attending physician, Dr. Denormandy, was instantly sent for, and apprehending from the severity of the injuries that it would be necessary to amputate one, if not both legs, I was called in. Found the man partially insensible, and both legs broken. The astragalus of the right foot thrust up between the tibia and fibula, with fracture of the latter bones, about five inches from the ankle joint; while the tibia and fibula of the leg were broken about three inches from the joint, and the ankle dislocated out-

wards, with solution of continuity of the external malleolus. There was pulsation in both anterior and posterior tibial arteries, which induced me to recommend an attempt to save the legs, knowing that amputation could be performed at any subsequent time, should it be found necessary. With that understanding, so soon as the necessary preparations could be made, we reduced the fractures and dislocations after much careful manipulation, and dressed with side-splints and fracture-boxes. To relieve the extreme collapse and allay pain, carbonate of ammonia was freely given, together with small doses of morphine.

From this the patient rapidly recovered, and in three months was upon his feet again.

CASE II. Upon the 5th day of October, 1869, four men stepped upon the cage at the top of the shaft at the Gardner coal mines, for the purpose of descending into the pit, a distance of one hundred and ninety-five feet. As the engineer started the machinery for lowering the cage, the rope broke, precipitating the cage and men to the bottom, instantly killing one man, producing compound comminuted fracture of the leg of the second, slightly injuring the spine of the third, while the fourth received a severe blow upon the lumbar vertebræ, causing paralysis of the lower extremities. Pins thrust into the skin at any point below the seat of injury, gave not the slightest sensation of pain.

The attending physician, Dr. McMann, of Gardner, thinking the case a capital one to try "Clines's Operation" of relieving the compression of the spinal cord by cutting down upon the injured part, and sawing through the lamina sufficiently to elevate the depressed portion of bone, immediately telegraphed for me to meet him in consultation. Upon arriving I learned the above facts, and after a careful survey of the case, notwithstanding the want of success hitherto attending the operation, I advised its immediate performance. So soon as the necessary arrangements were completed, we made an incision about six inches in length, through the integument over the

seat of injury, and separated the muscles upon either side of the spinous processes sufficiently to ascertain the extent of injury. This done, we discovered the second lumbar vertebra fractured through the lamina, and the spinous process driven in upon the cord, and so wedged as to be perfectly immovable with the tooth forceps. Hayes's saw was applied, and the lamina divided upon either side, and the process elevated, when the spinal cord was found to be so completely contused and lacerated as to entirely obliterate its functional activity.

The wound was properly dressed, the water drawn as occasion required, and the bowels attended to whenever necessary. From this the patient lived about ten days, and died.

CASE III. May 7th, 1870, M. K——, a stout, robust man of middle age, while working in the Gardner Coal Mines, was struck upon the back by a large stone falling from the roof, weighing some four hundred pounds. He was immediately taken from the shaft and Dr. McMann called in. After a careful examination of the case he diagnosed fracture of the third lumbar vertebra with contusion of the spinal cord. For which Cline's operation was advised. With this view I was summoned. Upon arriving I found the case as above stated, with complete loss of both sensation and motion of the lower extremities, together with paralysis of the bladder. Although the injury seemed to be of so severe a nature as to almost entirely preclude any prospect of success in an operation; still I thought best to operate knowing that death would soon follow without the operation, should the cord prove to be seriously injured; also that the danger of the patient could not thereby be increased.

After the patient and friends were made thoroughly acquainted with the nature of the operation, we proceeded as in the former case. Upon incising the integuments we found the yellow ligaments connecting the lamina of the two vertebra torn through, the cord completely separated, and the spinous process of the third lumbar vertebra drove down upon the body of

the same, thus precluding all possible chance of recovery. This man lived some thirteen days after the operation.

Remarks.—Although this operation for the removal of the pressing vertebræ arch, was first proposed by Henry Cline in 1814, some fifty-seven years ago, still no favorable results have as yet attended its performance. This I attribute to the fact that the cases were extremely unfavorable for the operation, except Tyrells, and one or two others. In the above cases the sheath and cord were so completely torn through in both instances that the operation at once showed the utter impossibility of a favorable issue in either case. That the operation hastened in the least the death of either of the patients, I have my doubts, and would be tempted to operate again under similar circumstances.

Were it possible for us to ascertain whether the cord was simply compressed, or entirely torn through, or whether the symptoms resulted from blood effusions in the different situations before the operation, then we think its performance would be as certain of success as trephining in fracture of the skull with compression.

CASE IV. Before day-light on the morning of December 29th, 1870, Mr. C —, the engineer at the R shaft left the engine-room for the purpose of oiling some of the machinery. When near the shaft his lantern "blew out," and supposing himself some distance from the opening, continued to walk forward until he stepped into the shaft. The cage being at the bottom at the time, he fell astride the crane, some sixty feet below, severely lacerating the perineum and urethra, besides producing severe and extreme contusion of the testicles and soft parts about the nates and anus. The attending physician, Dr. Payne, saw the patient soon after the accident, and immediately made cold applications to the parts. In a few hours he was again summoned for the purpose of relieving the bladder, as it was found the patient could not micturate. After making several ineffectual attempts to pass the catheter, I was called in consultation. Upon arriving, I found the parts so contused, echymosed, and infiltrated with urine, together with the edemur-

tous swelling, as to have the "feel" and appearance of jelly. The bladder was also found distended to its utmost capacity. This I attempted to relieve by a medium sized catheter; failing in this, I resorted to a number six, and after introducing it down to the point of injury in the uretha, I carefully enlarged the opening in the integuments, dissecting down to the urethra sufficient to introduce the fingers, by which, after long and careful manipulation I succeeded in introducing the catheter. This was made fast and retained for a number of weeks. Meantime the bladder was frequently syringed out with luke-warm water, water dressings continued to the parts, and anodynes given whenever necessary to relieve pains and procure sleep. From this the patient rapidly improved, and the extensive sloughing was soon replaced by healthy granulations.

[TO BE CONTINUED.]

TYPHO-MALARIAL FEVER, COMPLICATED WITH SYMPTOMS OF CEREBRO-SPINAL IRRITATION.

Prepared for the Chicago Medical Society, by N. S. DAVIS, M. D.,
Chicago.

A few weeks since I called attention of the society to several cases of what was regarded as typho-malarial fever, complicated with severe dysentery. Those cases occurred during the month of June, and mostly in a particular part of the south-western portion of the city. From four to six weeks later in the season we began to meet with a class of cases presenting a different, though not much less formidable complication. The cases now alluded to were confined to no one section of the city, although they occurred almost exclusively among the laboring classes and in crowded dwellings. The first that attracted my attention strongly was that of Mr. B —, a laborer, living at 123 Burnside street. He was attacked in the evening of the 20th of July, with a chill accompanied by severe pain in the head, especially in the occipital region and in the

cervical and dorsal portions of the spine. I was called to see him on the 21st and found him with an active general fever, skin hot and dry; face flushed; tongue covered with a white fur; pupils natural, but eyes rather sensitive to light; pulse 105 per minute; respiration hurried; and complaining of intense pain in his head and back, aggravated by motion, with hyperæsthesia over the whole length of the spine and lower extremities. There was also some rigidity of the muscles of the spine and extremities. At first I regarded the attack as one of direct inflammation of the cervical and dorsal portions of the spine, probably of a rheumatic character; and he was directed to take small alterative doses of calomel with Dover's powder and nitrate of potassa every four hours, alternately with a mixture of

R	Tinct. Cimicifuga.	ʒii.
	Tinct. Stramonii,	ʒss.
	Vin. Clochici Sem,	ʒss.
	Simple Syrup,	ʒj.
	Acetis Potassa,	ʒiv.

M. Dose pt. ʒi. in water every 4 hours.

Also a strongly anodyne liniment to the whole length of the spine.

The following day the calomel powders were omitted and a saline laxative given sufficient to evacuate the bowels, the mixture in the vial being continued. On the 23d the pains in head and back were less and there was less hyperæsthesia of the extremities, though there remained rigidity of the muscles of the neck, and increase of pain on motion. The general febrile action was less and it had been observed to be distinctly remittent in its character; the exacerbations commencing about 10 o'clock A. M., and declining at midnight. In consequence of this, he was directed to take five grains of sulphate quinine and one quarter of a grain of sulphate of morphia three times during the period of remission each day, and to continue the cimicifuga mixture every four hours. Under this treatment the exacerbations diminished and he seemed so far improved that on the morning of the 30th he got up and shaved himself. But during the afternoon the febrile exacerbation returned with all the cerebro-spinal symtoms, as well marked as at first. But

now the lower extremities were in a state of anæsthesia and motionless; the muscles of the neck rigid; the pupils dilated; and the pulse small, somewhat irregular and slow.

He was put on five grain doses of iodide potassa, with 12 drops of tincture of belladonna every two hours; a blister applied to the back of the neck, and 10 grains of quinine ordered to be taken at 9 o'clock P. M. and at 8 o'clock A. M. On the 31st the febrile phenomena were less, but deglutition was difficult and no improvements in the other symptoms. The iodide and belladonna were continued every three hours, and strychnia in doses of one-fortieth of a grain given alternately. The patient continued to fail, the muscles of deglutition, as well as those of the lower extremities becoming entirely paralyzed. On the morning of August 2d, all the muscles of the deglutition and respiration were found paralyzed, and his discharges involuntary. The air passages rapidly filled with mucous which the patient had no power to dislodge, and he expired on the evening of the same day. No post mortem examination was allowed.

Mr. R —, a grocer, living in the rear of his grocery at 793 State street, was attacked on the 3d of August. I saw him the following morning, Aug. 4th, and found him presenting almost the same assemblage of symptoms as the case just detailed, only less pain and hyperæsthesia in the spine and lower extremities. The pain in the occiput and through the base of the brain was severe; the muscles of the neck rigid; the pupils of unusual size, and vision indistinct; respiration hurried, at times panting; pulse not over 90 per minute, soft and regular; skin hot; countenance dull, and face suffused with a dark flush. This patient grew steadily worse until the morning of the fourth day, when I put him on the use of fifteen grains of sulphate of soda and fifteen drops of tincture of belladonna every two hours, with a single dose of sulphate of quinine at the time of the greatest remission. From this time the patient began slowly to improve. The same medicine was continued only lengthening the interval between the doses as the cerebro-spinal symptoms abated; and on the 12th of August he ap-

peared convalescent. But the recovery of strength and steadiness in walking was very slow, not being complete in less than five or six weeks.

C. D—, a laborer, aged 23 years, living at No. 83 West Indiana street, was attacked with a severe chill, followed by fever, on the 18th of August, 1871. On the following day the chill was repeated, and I saw him a few hours after. His face was deeply flushed; the skin generally redder than natural; the expression anxious and suffering; eyes watering, but pupils natural; skin hot and dry; pulse 90 per minute; respiration variable, short and about 28 per minute; tongue covered with a thick white coat, but not dry; urine scanty and red; considerable thirst, and stomach rejecting its contents when over-full with drink; bowels quiet, though they had been freely moved by physic the preceding day.

But the most noticeable symptom was intolerable pain in his head, most severe through the region of the base of the brain, from the lower part of the frontal to the occipital region. The head was thrown a little back and the muscles of the neck slightly rigid, with tenderness to the touch. The pain was so severe as to induce a constant moaning and begging for relief. It was stated that these same symptoms had occurred after the chill of the preceding day, lasting six or eight hours, then abating much in severity, but not wholly disappearing until the chill of to-day. Regarding the case as one of periodical fever, accompanied by unusual irritation of the cerebro-spinal nervous centre, he was directed to take twenty grains of bromide potassium, and eight drops of tincture of gelsemium, every hour, until the violence of the paroxysm and the cephalalgia had abated; then to take five grains of sulphate quinine, and two grains of calomel, every three hours, until three doses had been taken. The directions were obeyed, but on visiting the patient the following day, there was found no amelioration of his condition. The febrile exacerbation returned at the usual time, and with even more severe cephalalgia than before. The muscles of the neck were more rigid, and with each expiration

there was a well-marked spasmodic jerk in the diaphragm and abdominal muscles.

If there was any modification of the phenomena, it was in the less marked cold stage. I now directed solution of sulphite of soda and tincture belladonna, in such proportion that the patient could take fifteen grains of the first, and fifteen drops of the last, every three hours, without reference to exacerbations or remissions.

For immediate relief of pain, he was directed twenty grains of bromide potassium, and twenty of hydrate of chloral, to be taken at once, and repeated in two hours, if the pain was not somewhat relieved; and twenty grains of quinine, divided into three doses, to be given during the next remission. On calling the next day, August 20th, it was stated that the bromide and hydrate of chloral appeared to have no other effect than to stupefy and confuse the mental faculties, without inducing sleep or shortening the paroxysm. There had been some nausea, and some of the medicines had probably been rejected by vomiting. Yet he was found in the midst of another exacerbation, if possible more aggravated, both in the pain and in the derangement of muscular action, than on either of the preceding days. For the purpose of allaying the gastric irritation, and allowing the patient to become entirely free from the influence of the foregoing medicines, he was directed the following solution:

R	Carbolic Acid Crystals,	8 grs.
	Glycerine,	ss.
	Tinct. Gelsemium,	ss.
	Water,	℥iij.

Mix. Give one teaspoonful every three hours, in a tablespoon of water.

August 21st. Visited the patient at the usual hour, about 4 P. M., and found him again in the midst of one of his violent paroxysms of sufferings. His head was drawn back, muscles of the neck quite rigid, and sensitive to the touch; moaning loudly with pain, but indisposed to speak or move; pupils large; countenance dull; temperature of the surface but little above natural; pulse only 85 per minute, soft, and regular; respiration hurried, irregular, and each expiration accompanied

by spasmodic action of the diaphragm and abdominal muscles; abdomen empty, concave, but hard from rigidity of muscles; urine scanty. The tongue was still coated, but moist. The bowels had moved once, nearly natural; no vomiting; and during the preceding night the patient had slept quietly for three or four hours.

The posterior cervical muscles had not been entirely free from stiffness, nor the head wholly free from pain, since the commencement of his sickness. Seeing the dilated condition of the pupils unaccompanied by other symptoms of cerebral effusion, and remembering the effects of the Calabar bean in some other cases of irritation of the cerebro-spinal axis, I determined to use it in this case. Accordingly I directed twenty drops of a reliable tincture of Calabar bean to be taken, at first, every two hours, and three grains of quinine, and the one-sixth of a grain of morphine, to be given morning, noon, and night. These directions were carried out, and the next day I found my patient decidedly better. He had an exacerbation at the usual time, but with much less severity.

The treatment was continued, except the interval between the doses of the tincture of Calabar bean was lengthened to three hours. At this rate both remedies were continued through the 22d, 23d, and 24th, the exacerbations becoming less each day, until on the latter day they were hardly observable, and the patient moved his head pretty freely..

After this the quinine and morphine were limited to one dose every night, and the Calabar bean given every six hours. Under this treatment, the patient became entirely convalescent by the 4th of September, and has remained well since.

On the 27th of August, I was called to Miss B., a young woman, on Burnside street, near Twenty-First street. She was found laboring under an attack, in all respects closely resembling the one just detailed. After giving her a few grains of calomel, and opening the bowels, I put her at once on doses of sulphate of quinine three grains, with sulphate morphine one-sixth of a grain, three times a day, and twenty drops of the Calabar bean every two hours the first day, and every three

hours subsequently. The symptoms and exacerbations began to lessen visibly within the first twenty-four hours; and in ten days the patient was fully convalescent, having taken no other medicines, except castor oil enough, twice, to move the bowels. A few other cases, of less severity, have since been treated with these remedies. And I am satisfied that in some forms of irritation, or morbid excitement of the cerebro-spinal nervous system, especially accompanied by muscular rigidity, we may find the Calabar bean a valuable remedy.

CLINICAL REPORTS.

CASES IN THE MEDICAL WARDS OF MERCY HOSPITAL.

Service of PROF. N. S. DAVIS. Reported by B.

CASE. I. PROGRESSIVE LOCOMOTOR ATAXY.—Progressive Locomotor Ataxy was imperfectly recognized and described by old writers as *tabes dorsalis*, and was classed with paralysis. But the disease was not well understood until a few years ago, when Duchenne of Bologne investigated it thoroughly. The prominent feature is a loss of power to coördinate the muscular movements. No muscles fail to contract under the stimulus of the will as in paralysis, and the movements are made promptly, unlike the slow and imperfect motions of a paralytic who has partially recovered. But the patient cannot perfectly execute a movement that requires the action of several muscles at once, especially in the lower extremities. In attempting to walk he starts off briskly, but staggers like an intoxicated man, and steadies himself by surrounding objects; frequently he is driven into a run to preserve his balance. The patient says he "has not much strength," but in reply to questions, he says he is not tired by exertion; in fact, he might walk for miles without special weariness.

The man attributes his condition to his exposure at the time of the fire, but his friends have noticed for a year a growing unsteadiness in his gait, especially an awkwardness and difficulty in mounting steps. Among the earliest indications are alterations of sensibility in the lower extremities. Some hyperæsthesia and pain; often there is anæsthesia, especially in the soles of the feet, so the patient is not certain when he touches the ground. Soon the friends will notice that he walks strangely, though the sufferer himself thinks they are mistaken. There is generally disturbance of the special senses, particularly sight and hearing: this patient has an indescribable sensation in the ears which he attributes to exposure.

On examination of the spinal cord under the microscope, it is found that there is atrophy of the proper nerve structure, and an increase of fibrous or connective tissue. Only a small amount of nerve cells and fibres are found in the posterior roots of many spinal nerves and in some cranial nerves. Whether this atrophy results from some impairment of vital affinity or from some deficiency in the blood, is still uncertain.

Treatment:—It is desirable to do something to promote nutrition if possible. Habits of life must be carefully regulated, and any exercise which would exhaust energy must be prevented. Gentle currents of electricity, and sometimes friction are to be applied along the spine. For medicine, the best results are obtained from the Hypophosphites with an excess of phosphorous acid; with minute doses of strychnia, if there is constipation. Under such treatment the disease has been kept at bay in another patient for six years. Six or seven years is the average duration of the disease. It almost always terminates fatally sooner or later.

CASE II. INTERMITTENT FEVER, WITH PULMONARY COMPLICATIONS.—This young man was attacked by chills and fever five weeks ago, and in the course of two weeks under his physician's treatment, the chills disappeared and the general fever was cured. But since that he has been pale, coughs and sweats

considerably at night. These unpleasant symptoms not unfrequently follow typhoid and intermittent fevers which have impoverished the blood and led to some exudation into the tissues of the lungs. This exudation, if not absorbed may degenerate, constituting a condition which Niemeyer calls caseous infiltration. The patient convalescing from the intermittent is nevertheless languid, short of breath, coughs, especially in the evening and morning, has quickness of pulse and heat, generally with night sweats. Unless prompt treatment is resorted to, the infiltration progresses to suppuration with fatal exhaustion in two or three months, constituting quick consumption.

In this case auscultation reveals increased density in the right lung, especially at the base, which is scarcely at all inflated except by forced inspiration. This density is due to exudation brought on by local congestion with the impoverished condition of the patient's blood. Tonics are evidently indicated, and likewise anodynes to allay irritation in the lungs. He was directed to use twice a day the muriate of ammonia mixture, previously described. Besides the anodyne influence of the mixture, the muriate of ammonia as an alterative promotes absorption. Of the many tonics which might be used the extract of malt and comp. syrup of the Hypophosphites taken at each meal constitute one of the best. Many would order cod liver oil which, however, is apt to disagree with the stomach and so impairs digestion. Syrup of Iodide of Iron, 20 drops after each meal, was directed for this patient. This gives the alterative influence of iodine with tonic properties of the iron. In tuberculosis, also, when iron is to be used the iodide is the best form. According to the reports of the Brompton Hospital, devoted to the treatment of consumptives, this agent was represented as particularly favorable in the suppurative stage with tendency to night sweats.

CASE III. CHRONIC AGUE.—Attention is called to the pale and rather sallow complexion, the empty veins and bloodless appearance of a patient who has entered the Hospital after

being troubled with ague more or less for four months. Malaria diminishes the amount of red corpuscles, and in extreme cases the thinning of the blood produces a tendency to anasarca. By examining the blood of patients who had suffered from malaria the professor had found the red corpuscles reduced from the normal 127 in 1000 to 50 in 1000. This is a regular concomitant of intermittent, and forms a marked contrast with typhoid fever. It is uncertain whether the red corpuscles are destroyed by the direct action of the malaria or the development arrested by some change in the organs by which they are matured. But in treatment the fact is to be remembered, especially in chronic cases. The physician who is called to stop the paroxysms of intermittent frequently does nothing further, and there is a relapse with which the patient is dissatisfied, or a new disease may arise from the condition in which the intermittent leaves the patient. Intermitents can be easily interrupted, but the disease is not cured by stopping the paroxysms.

Treatment should be adopted at once to restore the blood from its pathological changes. This may be well accomplished by the use of the extract of *Cornus Florida* or black ash, with iron and *nux vom.*, as in the following formulæ :

R	Ext. Hyosciamus,	40 grs.
	Ext. Cornus Florida,	80 grs.
	Citrate of Iron,	80 grs.
	Ext. Nux. Vom.,	20 grs.

M.

Divide into 40 pills. Take one pill before each meal time, until the blood regains the normal proportions of its red corpuscles, and the patient's strength is restored. This patient still having slight paroxysms of intermittent character with looseness of the bowels, was directed to take Sulph. Quinia 3 grs. and Sulph. Morph. 1-4 gr. each morning and noon in addition to the use of the above pills.

CASE IV. DIABETES MELLITUS.—This patient for several months has had a disease, the beginning of which is very insidious. He found himself despondent, troubled with a little indigestion, and dull pain in the loins, and he had to

urinate rather often. No severe symptoms appeared, and nine of ten patients at that stage imagine themselves "bilious." The appetite for food and especially for water gradually increased, and a large amount of water was passed. The skin was dry and rough. The hands are a little shrunken; the pulse soft and 90 per minute. He has lost weight considerably. The symptoms indicating diabetes; the urine was tested in presence of the class, and the urinometer indicated 1,030 sp. gr. A specimen was mixed with a solution of sulphate of copper so that a bluish tinge is produced and an excess of caustic potassa added; heat then gradually changed the mixture to a dark orange red.

The nature of diabetes mellitus is of course still in obscurity, though now traceable beyond the kidneys, where it was formerly located. The starch and gum of the food is converted into sugar before it can enter the blood, and normally the sugar is changed, probably into lactic acid, before entering the arterial circulation. However, if the sugar should not be thus changed, the blood would become charged with sugar, and an excess of sugar in the blood acting as a diuretic is carried out by the kidneys. This stimulation may cause enlargement of the kidney, and the coincident loss of blood constituents may lead to tuberculosis.

The indications for treatment are to provide a diet containing little that can become sugar and to promote digestion. Bran bread, lean meat, butter-milk or sour milk fulfill the first requisite, and though it may seem a poor diet, patients who were lean sometimes get fat on it. To assist digestion, Dr. Jones, of New Orleans, who is one of the most active and laborious workers in the country, prescribed fresh rennet macerated in vinegar. The mixture of rennet, 1 oz., to vinegar, 1 pt., should stand two or three days and then be given in tablespoonful doses after each meal. Patients seldom prepare this properly if it is left to them, and a pharmaceutical preparation known as liquid rennet may be directed. Rennet has done more good in this disease than any other remedy in the Professor's experience. He has found temporary benefit from

use of tannic acid; and some recent writer has alledged entire success in the use of this article in doses of from 20 grs. to 30 grs. This patient has taken tannin, 10 grs., and tannate of quinia, 3 grs., three times a day. The warm bath is used every evening in order to relieve kidneys, by increasing the activity of the skin. He was advised to continue these remedies with a fluid drachm of the liquid rennet after each meal.

CASE V. ALBUMINURIA.—This man's kidneys are congested and their action almost suppressed; the albumen of the blood is passing out through them. Inflammatory attacks without any structural changes may cause albuminous urine, but when there is no structural damage, the symptoms come on suddenly. In Bright's disease they appear slowly, as in the present instance. The patient's urine is rather dark and turbid, 1,007 in specific gravity. Two or three drops of nitric acid throw down a white precipitate which heat makes more dense. Both these tests must be applied as very alkaline urine retains albumen in solution at any temperature; while after the use of copaiba nitric acid will often produce a white precipitate which is cleared up by heat.

The elimination of water being diminished and the albumen escaping, the patient has become dropsical. Whenever the albumen is reduced to 60 in 1,000 parts of the blood, dropsy is manifested. The retained urea sometimes effects the brain, but in this case it acts upon the heart which beats only 50 times in a minute and with corresponding feebleness. The dropsy is merely a symptom and not yet burdensome; if it becomes excessive, it will be much better to relieve the patient by incisions through the skin than to attempt to remove a smaller amount of fluid by exhausting cathartics and diuretics. This case is doubtless one of granular degeneration of the kidneys.

The remedies most valuable are warm baths, iodide of potassium or sodium to operate on the structure of the kidneys. Theory would be against the use of mercurials as the blood is already aplastic. But in practice the bi-chloride of mercury in doses of 1-40 of a grain in a fluid drachm of tincture of cin-

chona, given at each meal time, has produced decided benefit in many cases in the early stage. Recently large doses of iodide of potassium, 20 grs., three times a day, have been reported very successful. This patient began with 8 grs., which made him sick at the stomach; a solution of carbolic acid was given to counteract the sickness, and the dose of the iodide was increased to 10 grs. If it can be borne, the dose will be gradually increased to 20 grs., with the design of causing absorption of the exudation in the structure of the kidneys.

CASE VI. PARTIAL HEMIPLEGIA, ETC.—The present patient was in the hospital eight months ago during several weeks. At that time he was complaining of a severe and persistent pain in the head, in the parietal region, and through the base from the occiput to the frontal bone. There was a prominence or tumor on the right side of the frontal and parietal bones, and he suffered from hemiplegia of the left side which came on after the pain. He was much improved by treatment, and though not well, he returned to his home in the north division of this city; the destruction of the north division has brought him again to the hospital. He has cephalic pains, and his mind is impaired, at times deranged; the hemiplegia is so far partial that he retains slight control of the left limbs.

The appearances indicate a thickening of the dura mater over the sphenoid and ethmoid bones, the tumefaction of the pericranium being of the same character, and due to the influence of remote syphilis. The pressure at the base and side of the brain explain the paralysis and derangement of intellection. It is evidently important to detect the diseased condition early, before any softening or caries has taken place.

The treatment of course is iodide of sodium, or potassium and bichloride of mercury. When there is pain, as in the present case, an anodyne may be added as in the formula below:

R Iodide of Sodium, ℥iij.
Bichloride of Mercury, gr. j.
Fl. Ext. Conium, ℥ss.
Simple Syrup, ℥ss.
Aqua Men. Pip, ℥iij.

M.

Sig.—One teaspoonful four times a day

Under this treatment the pain is generally easier in four or five days, and in ten days gone. Then the dose may be reduced to three times a day for two or three weeks, and to twice a day for three or four months. Tonics will be required, both iron and the bitter barks, or the syrup of the hypophosphites; strychnia, gr. 1-40, and nitric acid, gtts. $1\frac{1}{2}$, are tonics particularly adapted to these cases.

CLINICAL CASES IN MERCY HOSPITAL, SURGICAL WARDS.

Service of PROF. ANDREWS.

CASE I. BURNS, ETC.—The incidents of the great fire in this city bring to the surgeon's attention many cases, of two kinds in particular—burns and lacerated and contused wounds. This patient was engaged, on the night of the fire, in moving furniture, but becoming tired out, he lay down, and thinks he fell asleep. Suddenly he was surrounded by flames, and he had to rush through them to escape. His face is burned all over, and the thick beard and moustache are burned off. His hands are burned, in some places deeply into the flesh. The surface of his body was not affected extensively enough to produce marked constitutional symptoms. A woman, however, was brought into the Hospital with the entire surface of her body lightly burned, and she died without reaction from the shock. Destruction of $\frac{1}{8}$ of the skin is usually fatal.

In the treatment it is necessary to reduce the suppuration which is proceeding on the face. For this purpose the face should be washed with the following mixture:

R	Glycerine,	}	à à	$\bar{3}$ jv.
	Water,			
	Tannin,			grs. xvj., vel. xxiv.
	Carbolic Acid,			$\bar{9}$ iv.
M.				

If this causes smarting, more water may be added. After being washed, the face is to be covered with simple cerate, or lard, mixed with carbolic acid, 20 grs., to the ounce of cerate.

The parts lightly burned may be covered with sweet oil or cotton soaked in oil. Sometimes, to exclude the air, the burned surface may be painted with white lead mixed with oil; lead poisoning need not be feared from a few days continuance. The dressings on cloth which have been applied to the hands cause intense pain when they are changed. To avoid this, the carbolated cerate is to be used, which softly covers the exposed nerves and does not harden or stick to the surface.

CASE II. OPERATION FOR REMOVAL OF NECROSED BONE.—This man received a wound at Gettysburg, from a bullet, which entered just above the knee, in front, and produced a comminuted fracture of the thigh. Perhaps one-half of such patients died at once, but cases are still appearing, and are usually troublesome. Three fistulæ are established in the limb, and fragments of bone are issuing; a piece of necrosed bone can be felt in the fistula, just above the knee. Enlarging the opening by a probe and scalpel until the bone could be felt with the finger, a piece of necrosed bone having sharp angles unlike those usual in disease, was removed with the forceps. Another piece has spiculated and come off since the wound was received. No other sequestra were found, but it was not deemed advisable to sew up the fistulæ, as they would have to heal by granulation.

MERCY HOSPITAL.—OPHTHALMOLOGICAL WARDS.

Service of **PROF. JONES.**

CASE I. PTOSIS.—In the falling of the eyelid which constitutes ptosis, the patient can often raise the lid by an effort, as in the present case; but the exertion exhausts the nervous energy, and the act cannot be repeated for a time. Ptosis has various causes, but in the present instance it originates from a condition bordering on paralysis. The man had a severe fall

four years ago, and his occupation has required him to do heavy lifting. He is seen to be in an anæmic condition.

If other means fail, the usual operation of removing an elliptical piece of the lid must be resorted to, but milder methods will be tried. In many cases tonic treatment proves very efficient. Strychnia and iron are directed for this patient, with external irritation to excite the circulation in the part. This course has given such satisfactory results as to justify the expectation of relief to the patient without operation.

CASE II. STAPHYLOMA.—This gentleman exhibits an instance of staphyloma resulting from an injury, the kick of a horse. He was operated on last spring, and the cornea amputated in such a way as to leave a good stump for an artificial eye. He left the Hospital in good condition, but the thinning of the cornea has again allowed the contents to bulge forward, and he has returned to have another portion removed. Formerly the eye was removed in such cases, but by preserving a stump with the muscles attached, movements of the artificial eye are secured. For the operation the patient was put under the influence of chloroform, and a speculum introduced between the eyelids to keep them apart. Large curved needles were introduced through the cornea, behind the cornea, in order to prevent the escape of the vitreous humor; the cornea was then cut out, and the stump cut down to the size best adapted to the artificial eye which is to be worn; then, with smaller needles, the incision was sewed up smoothly, and the patient directed to be kept quiet.

CASE III. CONJUNCTIVITIS WITH GRANULATED LIDS.—This man's eyes began to look red and feel inflamed about a year ago; now there is conjunctivitis, with granulated lids. No ulceration of the cornea, which is so frequent and serious a result, has yet occurred; the upper lid is worse than the lower, according to the usual custom. In an earlier stage a weak solution of sulphate of zinc, or of borax, sometimes with morphia, would have been used as a wash. But since the acute

stage is passed the granulated lids are to be touched with a piece of sulphate of copper which has been shaved smooth and then polished on chamois-leather. The lids are easily everted for this operation by taking hold of the eyelashes, at the same time telling the patient to look down towards the floor, then putting a pencil on the lid and lifting it up by the lashes.

GYNÆCOLOGICAL WARDS.

Service of PROF. BYFOR D.

CASE I. PERIMETRITIS.—This lady presents a condition not unfrequent, though its cause is perplexing. She married thirteen years ago, at the age of 16. Her health was perfect until the birth of her first child, but ever since she has suffered from dysmenorrhœa and leucorrhœa between the menses. She says that four years ago she was treated for inflammation of the bowels, and at the time of the fire in this city she was again attacked by the same symptoms as before, and having no home left, she entered the hospital. She had fever, pain in the back, hips and abdomen, pain in urinating, nausea and vomiting. The fever was considered to be an intermittent by a physician who saw her before she came to the Hospital. The house physician here prescribed paregoric and nitre, on account of the pain in the bladder, believing she had cystitis, and for the nausea and vomiting he gave her carbolic acid dissolved in glycerine and water. These medicines effectually relieved the symptoms before the patient was seen by the Professor. On examining her, he at once recognized a case of perimetritis. A lump hard as bone, and very tender under pressure, was felt in the left iliac region, extending diagonally into the other iliac region. By a vaginal examination a hard tumor was found filling the pelvis and pressing against the bladder. The consequent inflammation explains the pain in urinating; but besides this tumefaction of the uterus, the pelvic cavity was also filled by a fibrinous exudation.

A mistake in diagnosis is liable to be made by almost any one, especially since examination is so frequently neglected. The chills, fever and perspiration occurring every morning, made up apparently a good case of intermittent fever for the physician who first saw her; but the dysury and pains ought to have induced an examination. External exploration should be made in search of hard, resisting masses. Hard tumors can be distinguished by their giving dullness on percussion, whereas the intestines give resonance on percussion. Of course a vaginal examination should be made. The extreme frequency of these cases is often overlooked, because examination is neglected.

The patient was much prostrated, but was considerably relieved by the medicines already noticed. Fomentations of aconite and arnica leaves were directed, and likewise poultices of corn meal or flax-seed. The mixture of muriate of ammonia, tartarized antimony and morphia, was also ordered to be given four times a day. She is improving rapidly, and is about ready to go home. At present, $2\frac{1}{2}$ weeks after her entrance into the Hospital, examination shows that the pelvic mass is gone, and there is no tumefaction, except in the uterus, which is moveable.

BILIARY CALCULI.—PASSAGE OF A LARGE NUMBER, AND OF UNUSUAL SIZE.

Case Reported to the Chicago Medical Society November 6th, 1871.

By N. S. DAVIS, M. D.

MRS. B—, aged 55 years, was attacked on the 21st of August last with violent pain in the epigastrium, near the lower margin of the ribs, and over the region of the gall bladder. There was a little quickening of the pulse, but no fever. The extremities soon became cool, the pulse quick, but small and weak, and acute tenderness was manifested over the course of the hepatic ducts. I feared a supervention of peritoneal inflammation, but expected that the severity of the pain would abate

after a few hours. Hydrate chloral was ordered to be given in large doses, together with some morphia; also active narcotic fomentations were applied over the abdomen.

None of these measures, however, were successful in overcoming the pain. Two or three evacuations occurred, which were thin and intermixed with mucus, but not of the clay color which would indicate a retention of the bile. The acute pain was overcome by keeping the patient stupefied with chloral, but for a week she remained in a critical condition. She then began to improve. The tenderness over the abdomen remained, however, with a slight tendency to diarrhœa, but hardly any evidence of jaundice.

On the 19th of September the patient was again attacked with the same symptoms, more violently than before. The warm fomentations were renewed, and chloral promptly given. She was also placed in a warm bath, and remained there until symptoms of faintness began to be manifested. On the second day a moderate laxative was given, and on examining the evacuations the calculi here exhibited were obtained. There are thirteen of them, varying from $\frac{2}{16}$ to $\frac{4}{16}$ of an inch in diameter. They are of rather irregular outline, and many of them having been apparently worn off at the corners, display very nicely the concentric layers of which they are composed.

After the passage of these, the patient began rapidly to recover, but at the end of a week there still remained some slight feeling of discomfort, nausea, etc., and the bowels continued irritable, but there were no signs of active inflammation. With a view of preventing the further formation of calculi, she was directed to take 6 gtts. nitric acid, well diluted with water, three times a day. This, however, being found to irritate the bowels, was withdrawn, and liquor potassa substituted in doses of 10 gtts., at first, and gradually increased to 15 gtts. To improve the condition of the bowels, she was also ordered some powders consisting of bismuth sub. nitras, 6 grs., lapulin, 1 gr., and morph. sulph., $\frac{1}{2}$ gr.

The patient soon afterward went East on a visit, but had three repetitions of the attacks during her absence; a number

of calculi being passed on each occasion, amounting to about 60 in all. Since her return home, however, during the past few weeks she has remained perfectly well.

Another somewhat similar case occurred in my practice some six or seven years ago. A Jewish lady had been subject to repeated attacks of severe pain, etc. Being called in the midst of one of the paroxysms, I was satisfied from the character and situation of the pains, and from the marked jaundice, that it was a case of biliary calculi. The nitric acid was ordered for her, 6 gtts. to be taken at each meal time, and continued for several weeks. She had one subsequent attack, a short time after commencing treatment, but has had none since.

I can recollect three other cases where the re-formation of calculi has been entirely prevented. In two of the cases an opposite course of treatment was tried, an alkali, liquor potass, being given instead of the acid.

Some years ago, a member of this society related a case of biliary calculi cured by sweet oil, given in large doses. I tried the treatment in one case, and in the course of 48 hours a large amount of matter was passed, consisting of little balls of a light color, and varying in size from a pea up to a hickory-nut. On examination they proved, however, to be nothing but the solid stearine of the oil moulded into balls. I have also several times had specimens of supposed biliary calculi sent to me from the country, which, however, by the time that they reached me, had melted or re-dissolved into oil. True calculi, such as these before us, are not softened by oil.

Our aim in the treatment of these cases should be, first, to relieve temporarily the pain, by narcotics, warm fomentations, etc.; and secondly, to so change the constitution of the bile as to prevent the future formation of new calculi. Their formation is probably caused by an excess of cholesterine in the bile, which becomes crystallized. The calculi formed are sometimes so large as never to pass through the ducts; but being

retained, and blocking up the ducts, they produce permanent derangement, congestion, atrophy, jaundice, etc.

The treatment by ether, acids, or alkalies seems to accomplish the desired change in the constitution of the bile.

SELECTIONS.

CASE OF MUSCULAR ATROPHY.

By V. KERSEY, M. D., of Richmond, Ind.

Henry C. D., one of the proprietors of the extensive woolen mills recently burnt in this city, was above medium size, of fine form, well developed muscular system, excellent constitution, general good health, and active habits. He was forty years old, a great smoker, and sometimes drank a glass of ale.

In an effort to save some of his property from the fire on the 9th of November, 1870, he and three other men were moving a heavy machine from the lower story of the building. At the door, where they had to ascend three steps, the other men all got in front of the load and he alone behind it, when notice was given that the bell, situated directly above, was about to fall. This led to his lifting up at a great disadvantage, and carrying up the steps a load quite beyond his strength. On getting out of danger, he found himself suffering from acute pain in the right side, and was forced to lie down. After a little rest, however, he recovered so much as to resume work, and continue at it all night. He was very actively employed and very much exposed to inclement weather for several weeks immediately after the fire; during which he had a troublesome cough, a poor appetite, and suffered a constant sensation of intolerable weariness in his right shoulder and arm, and before Christmas he found that the superficial muscles about the shoulder were wasting, and that they were disturbed by irregular twitching, especially when exposed to cold.

The suffering and the cough subsided as the local muscular debility increased; and regarding the latter as a trifling rheumatic affection, he continued his active habits during the early part of winter, using little beyond local applications to

the shoulder, measures to promote appetite and digestion, and occasionally the induced electrical current. A little later he was forced to give up active exercise on account of great shortness of breath, which had been growing on him for weeks. From this time he was mostly in the house until his death, which occurred on the 14th June, 1871. I took charge of the case on the 2d of June, twelve days before his death. Except occasional advice from a medical friend, for which he visited a neighboring city several times in the early part of his trouble, he had been under constant homœopathic treatment, and was induced to believe that whenever the doctor got him sufficiently reduced, there would be no trouble or doubt about restoring him to full health and vigor again.

I found him free from pain, with normal sensibility in all parts of his body—able to walk about the room without difficulty, except shortness of breath, which, on a little too much exertion, was very urgent, amounting to almost perfect apnœa.

On careful examination, the lungs, heart, and great vessels were found free from signs of disease. A slight, perhaps simply normal bronchial secretion, gave rise to great annoyance, on account of complete inability to cough, or make the ordinary exertion of clearing the throat. The pulse was about natural in all respects when the patient was quiet, but under exertion it increased in frequency with the approaching apnœa, when the surface became cold, dusky, or motley, and bathed in perspiration. The appetite was generally fair, and the digestion good. The bowels were never moved without artificial means; apparently simply because the diaphragm and abdominal muscles were too much debilitated to afford any aid in defecation. The abdomen was greatly retracted, and the diaphragm highly arched. The function of the kidneys was normal, and the discharge of urine unembarrassed to the last. The sleep was laborious and dreamy, always on the back, with the chin drawn down and the head back, pulling the mouth wide open; and the æration was always worse than during wakeful repose. The mind was generally entirely clear and sound; but sometimes the hallucinations of sleep were held to be real for half an hour or more after waking; though they always ultimately gave way under the better æration of the

waking state. The man could not move the right arm except feebly toward the body when the elbow was partially raised. Its muscles and those of the scapula were greatly wasted. The forearm and hand were now fleshy, and on fixing the elbow he could turn them about and use them with some force. The flexors on his limb were less atrophied than the extensors, making it difficult to open the hand, although there was considerable power to grip.

At this stage of the investigation I had the patient sit upright, with the body bare to the seat. From behind the view was remarkable on account of the prominence of the bones on the right side. The muscles on the scapula, both above and below its spine, appeared to be wanting; the shoulder was flattened from atrophy of the deltoid; in a word, all the visible muscles on that side of the trunk were greatly wasted; while on the opposite side the same destructive process was clearly in progress, though not so far advanced. In front the same condition obtained, though not so strongly marked. The left arm seemed to have twice the flesh of the right. Both lower extremities were atrophied to a sensible degree, and here the right side took the lead as above. The muscles concerned in expression, mastication, deglutition, and speech, appeared to be unaffected; their functions were well performed, and no twitching or quivering of their fibres was at any time observed: whereas in parts notably affected with atrophy this was an almost constant symptom, capable, however, of being greatly augmented by exposure of the contiguous surface to a current of cold air. Although the diaphragm and the intercostal and abdominal muscles were less open to observation, the symptoms lead to the conviction that they were among the greatest sufferers from atrophy. The entire inability to cough, sneeze, clear the throat, or promote defecation; the imminent difficulty of respiration; and finally the manner of the death, from simple apnœa, without a struggle, ten minutes after walking from one room to another, seemed to justify this conviction.

Although I had never seen a case of progressive muscular atrophy, I was at once forced to a full recognition of the disease in this man. In the few days he was in my care he was seen by Drs. Walker, Weist, and Clark, who, I believe, fully

concurrent as to the nature of the disease, though no one of them had seen it before.

I left a small section of muscle from the thick portion of the right pectoralis major, with Dr. Weist, requesting a microscopic examination and report. The Doctor kindly furnished the following: "A large number of the muscular fibrillæ—perhaps three-fourths—are entirely normal in appearance save in color, being unusually pale. Transverse striæ very distinct.

"In a portion of the fibrillæ the transverse striæ are very obscure, while in a smaller number they are entirely absent. In the latter the centre of the fibrillæ consists of fine granular matter, evidently exceedingly minute fat globules.

"In a few instances the sarcolemma is collapsed, and almost empty, containing here and there a small oil globule.

"No interstitial deposit of oil globules exists.

"The muscle is evidently undergoing fatty degeneration."

Notwithstanding the apparently hopeless condition of the patient, I advised friction, shampooing, stimulating embrocations, passive exercise of debilitated parts—and, inasmuch as electricity is the only remedy to my knowledge brought forward with a view to the direct arrest of atrophy; and as Faradization had been employed, with another view, in the early weeks of the disease, and without success, I had a wire brought from a Grove Battery of fifty cups, at the telegraph office near by; and after cautious trial, subjected him to the full force of the continuous current. This was kept up from half an hour to an hour, two or three times a day, to the last. His muscular system was sensibly affected by this current, and he had a vague impression that he was benefited by it, and was hopeful of final cure. There was, however, no evidence that it did any good.

With a faint hope of replacing atrophy by nutrition, I prescribed the following pill: R. Sulphate of quinine; lactate of iron; lactate of manganese, of each thirty grains; strychnia crystals; arsenious acid, of each one grain; to be made into mass and divided into forty pills. One to be taken after each meal.

The patient was encouraged to take full rations of good food, including milk, eggs, bread and butter, beefsteak, beef-tea and essence, with tea, coffee, or ale at pleasure.

If there was no mistake in the diagnosis of this case, it presents two considerations worthy of note. The exciting cause of progressive muscular atrophy is generally held to be obscure; in many cases it seems to be wholly unknown. It is sometimes attributed to great muscular exertion; and sometimes to protracted exposure to cold. This man was subjected to the extreme of both these agencies, when, for years, little accustomed to either, and the initial stage of the disease followed rapidly on the exposure.

Again, the disease is generally remarkable for the slowness of its progress—the duration, so far as I know, of recorded fatal cases being a full year at the least, and of others, several years. Here the death occurred seven months and five days after the exposure, and about six months after the probable access of atrophy. Hence this process must have gone forward with unexampled rapidity. But the early fatality was undoubtedly due to the atrophy of a single group of muscles, upon the integrity of which the strictly vital function of respiration depends.—*Proc. Ind. State Med. Soc.*

THERAPEUTIC ACTIONS AND USES OF TURPENTINE.

Dr. Warburton Begbie read a paper on this subject before the Medico-Chirurgical Society of Edinburgh. He gave a brief sketch of the ancient history of the drug from the time of Hippocrates, with a notice of the various forms in which the oleo-resins of the conferræ are used or have been used in therapeutics. Oil of turpentine was described as being irritant and stimulant, quickening the circulation and augmenting the temperature of the body. In larger doses it produces a sort of intoxication; in drachm doses it is hypnotic. Externally it is a valuable rubefacient, and is absorbed by the skin so as very soon to be recognized in the breath, and by its characteristic violaceous odor in the urine. The production of this violaceous odor in its perfection seems to be a test of the integrity of the urinary organs, as it is less marked in disease of the kidneys. The therapeutic actions and uses of turpentine are various. 1. As a cathartic it is uncertain, but along with castor

oil it is useful in cases of obstinate obstruction and tympanitis. 2. As an anthelmintic it is chiefly used as a cure for tapeworm; also, in the form of enema, it destroys ascarides and lumbrici. 3. Though turpentine sometimes causes hæmaturia, it cures passive hemorrhages. It is useful in purpura, probably acting through the nervous system; and it is also useful in hæmoptysis, hæmaturia, and uterine hemorrhages. 4. As a stimulant, it is especially valuable in adynamic fevers; as in the stupor of typhus, in certain kinds of delirium, and in the latter stages of enteric fever with a dry tongue. 5. In certain nervous diseases, such as epilepsy and chorea, it is said to be very useful; but in epilepsy it is supplanted by bromide of potassium, and in chorea by arsenic. In certain forms of sciatica and crural or brachial neuralgia in the aged, twenty-minim doses thrice daily have a very good effect. In the nervous headaches of delicate females, and the headache which is induced by fatigue, it is a better stimulant even than strong tea, and without the effect which tea so often has of banishing sleep. 6. In all chronic discharges from mucous membranes, such as chronic and fetid bronchitis, it is very useful, and even is advantageous in gangrene of the lung in checking the fetor. Under this head some interesting cases were given of gangrene of lung depending on the presence of foreign bodies.—*Brit. Med. Journal.*

ON THE ELEMENT THAT KILLS IN CHLOROFORM, AND OTHER ALLIED CHEMICALS.*

By J. D. BROWN, F.R.C.S. Eng., Haverfordwest.

Of all deaths, the quickest are those which follow the total arrest of circulation, where the action of the heart is first stopped. Next in rapidity are those that follow the total arrest of respiration. Death from prussic acid is a fearful example of the first; from drowning and strangling, of the second. By prussic acid, death is instantaneously produced; in drowning and strangling, life is never prolonged beyond three minutes. Death from heart-affection is apparently easily explained; but why die from the exclusion of air? Let us imagine a person in full vigor and life, brought up dead from the water. Not a

* Read before the South Wales and Monmouthshire Branch, July 5th.

finger has touched him; not a drop of his blood has been shed; no poison has polluted his blood; yet he is dead, and three minutes ago he was full of lusty life. Why has he died? His organization is still perfect. The reply, I expect, is, that he died because there was no arterial blood to circulate, oxygen having been excluded long enough to kill. In heart-disease the answer will be, that there was no heart-power to circulate the blood, although it was still arterial and pure. All this is plain enough.

We will now take up chloroform, ether, olefiant gas, and alcohol, with their varieties, in which I shall include all the compounds of carbon, whatever name may represent them, such as chloral, etc. Those chemicals are introduced into blood either as liquids or gases; it matters but little how. In considering their chemistry, we find them richly charged with carbon in subtle solution. The little oxygen, hydrogen, or chlorine, that they contain, simply play the part of solvents to the carbon, and, as far as killing goes, can play no part.

There are two elements brought into play in their application; viz., the introduction of carbon, and the gradual exclusion of oxygen and nitrogen, carbon being retained on the one hand while it is being introduced on the other.

By excluding air, we can arrive at death without the aid of any other agent. By introducing carbon, we can reach the same point without calling upon strangling to help us. This is precisely what we accomplish in giving any of those subtle solutions of carbon, either as liquids or as gases. We gradually exclude the air and as gradually introduce the compound till we reach a given point, at which the blood is fully saturated with it, the agency of those two powers being put into force. It matters but little how we effect our aim; all that is wanted to complete our object is carbon, in sufficient quantity to overpower the brain and its functions. Drowning and strangling would answer our purpose quite as well as any of the chemicals in use, only we cannot as yet manage such dangerous agents with as much safety as we could wish. Moreover, they are painful modes, and never likely to be employed.

Of all our agents the pleasantest is chloroform, which, whilst killing, indulges the victim with the pleasant delusions of a happier life, and engages the respiratory organs at the

same time in their usual work ; thus throwing the whole living system off its guard, which, although apparently rejoicing in life, is in reality slowly dying. This is truly a happy death. The introduction of any of these compounds through the stomach produces the same effects.

Alcohol and chloral are well known agents, capable of intoxicating and even killing by introducing carbon too suddenly and in excess. To remove their effect, oxygen must be called to our aid, which, gradually combining with the elements of the intoxicating substance, at last expels the overcharge in the form of carbonic acid, water, etc.

Having exhausted the compounds of carbon, and proved their terrible powers of stupefying and killing, we shall take up those possessed of the same power, and which yet contain no carbon. This is a paradox. Here, you will say, a difficulty arises, a barrier rears its head, over which one will not very easily pass. I can see none. We have looked on the fearful rapidity with which drowning and strangling kill. In what does their power consist? Simply in excluding air. We give a gas, such as nitrous oxide, nitrogen, or any other respirable gas—even hydrogen, and we will not even despise carbonic acid—the results are precisely the same ; they kill with a rapidity that might be measured by the quantity of air allowed to mix with the gas used—in fact, we amuse the lungs and throw them off their guard whilst preventing the oxidation of the circulating carbon. This is much more pleasant than drowning, but equally fatal.

In nitrous oxide and carbonic acid we have compounds satisfied with their chemicals ; therefore, neither the carbon nor oxygen is brought into play. They simply exclude atmospheric oxygen, thus leaving the “killing” to the accumulating carbon. Flame, in ceasing to live in carbonic acid, simply dies for want of oxygen, not because carbonic acid is present, which, if it were to decompose, would yield sufficient oxygen to maintain combustion. An animal perishes in carbonic acid for the same reason. Chloroform has no advantage over carbonic acid except that its carbon is probably not free : I say probably, as there is no certainty.

Cause of Death.—It is not the detention of carbonic acid that kills, but the presence of carbon in some peculiar state,

and unoxidised. The small quantity of carbonic acid which the last inspiration creates, even if taken up by the blood and not imprisoned in the air-cells, would be too little to kill, granting it had the power. Death is really caused by paralysis of the heart. In every instance of death in rabbits, the circulation first failed, beginning in the ears; danger was always plainly visible there; and when chloroform was further given to the complete arrest of circulation, death always ensued. On *post mortem* examination, the heart was found to beat, but not with sufficient vigor to empty its chambers. No blood seemed to pass through the lungs to the left chambers. There was an idle action, simply from the fact that the blood went home to die—viz., to the venous system, whose headquarters is the right side of the heart and lungs. The last inspiration, shallow and superficial as it is, may be taken as a measure of the last stream poured out from the left ventricle to complete the circle for the last time, and then to stop forever. The heart fails, because highly carbonised blood cannot maintain the vigor of the nervous system. The moment circulation ceases, respiration comes to a dead stand; to re-commence the old work, circulation must take the initiative; respiration follows. This is the ordained order. With stagnant blood there can be no breathing. A newly born child breathes because his blood circulates: no human power could command a single breath had that function entirely ceased.

We now can understand why artificial respiration so often fails: in truth, we begin where we ought to end. Blood can only be oxidised in circulation; no amount of oxygen could tell upon the small quantity stagnant in the lungs—a proportion infinitely too small to rouse the nervous system even were it to move forwards. The first step toward life the heart must make; the second the lungs will take.

Indications of death are pallor and white lips; circulation has failed or is failing; a flushed or dark countenance is safe. Breathing you need not notice; it cannot go wrong. As long as the circulation is right, the first step to death is made by the circulation, the second by the respiration.

How to avert the impending death is the next question. There may still be a little arterial blood in the lungs and left side of the heart. There is just one chance: pour it into the

brain by hanging the head down. If the brain respond, all is safe; the heart resumes its labors and the lungs answer to the call; and, unless we succeed in rousing the brain by the little arterial blood which the vessels may still hold, the case is hopeless.

It is impossible to manufacture arterial blood without oxygen; and it is not possible to get air to tell upon the whole volume of blood unless we can insure its circulation; and it cannot circulate without the heart's permission, and the heart will not act till the nervous system is able to command it, and until the blood gets rid of its overcharge of carbon. Artificial respiration is useless, and is a loss of time till the circulation resumes its labors.

Dragging out the tongue is an idle occupation; the mouth is not the passage for air. The glottis cannot be closed by a dead tongue and retracted epiglottis. The only instances of its closure are attended by congestion of face and brain, and not by pallor and empty vessels. Observe the face in epilepsy, in drowning and strangling, convulsions, stammering and choking from spasms, or by intruding morsels or liquids. The glottis is never closed, only whilst swallowing; no amount of stupor shuts it, and even in death it is always open; in fact, that is its normal condition, excepting in those diseases just named.

To me it is a question yet to be decided whether we could not shorten convulsions by keeping open the glottis if means could be devised. Stammering is always relieved by preventing its spasmodic closure, by keeping a marble in the mouth, by drawling, or by intonation of speech, as singing or reading poetry.

Summary.—No time should be lost in artificial respiration, dragging out the tongue, etc.; but the brain should be roused by hanging down the head. There can be no harm in artificial respiration; it may be carried on at the same time. The cases appended all prove the value of this plan. It is also applicable to drowning, and to all the other causes of death just enumerated.

I append a few cases illustrative of the treatment recommended.

CASE I. A stout woman, aged 50, had her breast removed for cancer. Whilst we were securing the arteries, the circulation suddenly stopped. She was to all appearance dead—no pulse, no breathing, no color, but a ghastly white. At this critical moment I struck away all the pillows, and, with aid, laid her on the floor, her head lower than her body. Her lips became red, and in time she breathed, and by degrees recovered. There was no attempt at artificial respiration, nor was the tongue drawn out.

CASE II. A young and healthy peasant girl had her leg amputated, to improve a bad stump left by mortification of her foot and lower third of leg, caused by typhus fever. We were dressing it, when suddenly bleeding ceased. She had been neglected by the chloroformist, who left the handkerchief too near to her nostrils. She was breathless, pulseless, and pallid. Her head was raised on a block and pillow, for the operation, which I struck boldly away; her head fell with an audible noise on the table; at that moment the lips reddened, the face flushed, she breathed, and was safe.

CASE III. A lady, young and healthy, took chloroform to have a tooth extracted. Pallor at last followed, accompanied with the usual signs of death from chloroform. This was early in my experience of chloroform, and I was much frightened. She was laid down, her head lowered, and by and bye her lips showed signs of life, breathing returned, and she was saved.

CASE IV. A man aged about 56, delicate, and worn by long suffering, had his thigh amputated. Whilst the wound was being dressed circulation ceased, and he was apparently dead. His head was hung down over the table, and he soon recovered like all the others.

CASE V. An infant, whilst under chloroform for the removal of a *nævus*, became alarmingly pale, and apparently died. So much had been said about artificial respiration and dragging the tongue out, that we tried it, and thereby lost time; it failed entirely; we then resorted to our old plan. The child was literally hung upside down, till the lips grew red, and all was safe.—*Brit. Med. Journal.*

CATS AND DOGS are proved to be insusceptible of the vaccine disease.

VARICELLA IN SAN FRANCISCO.—Chicken-pox has been prevailing lately in San Francisco in an aggravated form, some cases so near to small-pox in character as to have been reported as such to the Board of Health.

AMONG the notable deaths which have taken place within the last few months are those of Dr. Liegeois, Vice-Professor of the Paris Faculty, Dr. Thomas Hawkes Tanner, of England, the well known author, Dr. George C. Blackman, Professor of Surgery in the Medical College of Ohio, also well known as an eminent teacher and writer.

SMALL-POX IN PHILADELPHIA AND ELSEWHERE.—Last weeks the deaths from small-pox, in this city, numbered seventy-four—nearly half of them adults. The public is alarmed, and with reason, for the ravages of this dreaded disease in Paris and London the last two years have been such as to recall, though somewhat faintly, the terrible pictures of its devastation, which are contained in medical treatises, before the days of inoculation and vaccination.

Active measures have been taken by the public authorities to extend the facilities of vaccination, and to impress upon the public mind the importance of this simple precautionary measure. Except among the lowest class of population there is no objection to its reception, and all that is needed is energetic action on the part of our Board of Health—not a very energetic body, we regret to say—to secure the city entire immunity from the scourge.

At this time the importance of *revaccination* cannot too strongly be insisted upon. We have published, within the last few months, several able articles from foreign writers upon this point, foreseeing the approach of the disease. Through mistaken views upon it, we regret that some eminent medical men have committed themselves to the opinion that revaccination is needless, or indifferent. Such views are contrary to known facts, and fraught with injurious consequences to the community. They are next in character to the folly of opposing vaccination because once in a million cases it conveys syphilis into the system.—*Phila. Med. Reporter.*

CLIMATE OF THE NORTH-WEST AND NERVOUS DISEASES.
—Dr. Staples in the *Northwestern Medical and Surgical Journal*, gives his views of the effects of the climate of Minnesota upon the nervous system. As compared with New England climate, that of Minnesota is tonic and *stimulating*, while that of New England is simply tonic. The climate of Minnesota is dryer, and hence its heat conducting power is less. This lack of moisture modifies its electrical condition as well as the character of light. The dryer air contains more ozone or concentrated oxygen. The moisture refracts the light as it passes through the air. Its comparative absence permits the light to come more directly to the eye, and so renders light more intense and stimulating. This condition of things has done good in some cases of consumption and harm in others. Since neuralgia is an affection of general debility and irritability of the nervous system or special nerves, a constant stimulating influence to the nerve centres can only increase the irritability without increasing the power, and this may be sufficient to destroy the nerve centre. Dr. Galloway says, "exaltation and depression are alike more marked here than at the east. Nutrition is more active and waste of tissue more rapid. The very great absorbing power of our air tends to exhilaration of nervous power, while sudden electrical change probably tends to disturb the nervous functions. Extremes are brought near, and as the intermediate grounds have to be traveled rapidly, and frequently, accidents are proportionately common. Our climate favors the production of most if not all the affections relating to the cerebro-spinal system. I think those persons whose nervous constitutions stand the climate stimulus are more robust, more powerful and more free from disease than they would be in a more humid climate. Nervous diseases are most frequent in the latter half of winter and in early spring. The different forms occur in order of frequency about as follows: sciatic, dorso-intercostal, lumbar-abdominal, cervico-occipital, trifacial, crural. The so-called *irritable heart*, I regard as a neuralgic affection of the pneumogastric nerve." Quinine as a nerve tonic has often afforded relief. In anæmic cases iron is to be combined with the quinine. Opiates, etc., afford the means of temporary relief. But severe and obstinate cases can be cured only by removing to a less stimulating or moister climate."

INCISION OF ELBOW JOINT TO RELIEVE ANCHYLOSIS.—Geo. E. Fenwick reports a very interesting case of partial ankylosis of the elbow joint, in the straight position the result of an unreduced dislocation, upon which he operated by excision with most excellent results. The case when first treated was mistaken by the attending surgeon for fracture, and was bandaged up in a straight position, and kept so for forty days. When she first came under Dr. Fenwick's care, reduction was impossible. Extension, flexion, supination and pronation are now nearly perfect.—*Canada Medical Journal*.

THE following abstracts of some of the papers read at the meeting of the British Medical Association at Plymouth, on the 8th, 9th, 10th, and 11th of August, are taken from *The Doctor*:

"Comparative Advantages of Laryngoscopic Treatment, and Direct Incision into the Larynx," formed the subject of a paper by Dr. Morell Mackenzie. He stated that the relative advantages of these two methods must be considered in relation (1) to the quickness of cure, (2) completeness of removal and probability of recurrence, (3) danger to life, and (4) restoration of voice. From an experience of 100 cases treated, a month was estimated to be the average duration of laryngoscopic treatment. External treatment, on the other hand, required only a fortnight. As regards the second question, complete removal was able to be effected in 97 per cent of the cases which underwent the full course of laryngoscopic treatment, and recurrence took place in about 7 per cent. In twenty-eight cases of direct incision, collected from all sources, ten died in a short time) and in the remaining eighteen the growth was incompletely removed in three cases, and recurrence took place in three cases, or, in other words, in 20 per cent. As regards danger in life, no death occurred in the laryngoscopic cases, whereas, of the twenty-eight treated by external operation, three immediately terminated fatally, six died at the end of a few months, and one from an independent disease. With reference to restoration of function, perfect voice was regained in 77 per cent. of those who underwent laryngoscopic treatment, and a more or less serviceable voice was restored in 16 per cent. Of the eighteen patients who survived

direct incision more than a few months, only nine* completely recovered their voice, four had persistent hoarseness, and four permanent aphonia. Consideration of the above statistics establishes the permanent value of laryngoscopic methods of treatment, and justifies one in saying that extra-laryngeal treatment ought never to be adopted unless there be danger to life from suffocation or dysphagia.

Dr. R. W. Crichton read a paper on "The Value of the Sulphate of Iron as a Local Application in Phlegmasia Dolens." This method of treatment was first adopted by the author many years ago, from the great success reported by Velpeau from its use locally in erysipelas. It had been employed exclusively in that form of phlegmasia dolens commencing at the calf of the leg and extending upwards to the groin, where the veins are chiefly involved. It had been applied as a lotion (twenty or thirty grains to one ounce of water) as hot as the patient could comfortably bear it, generally by means of spongio-piline. All the cases so treated had made good and rapid recoveries, contrasting favorably with cases formerly treated by leeching and hot fomentations. Muriated tincture of iron was, at the same time, given in large doses. The same method of treatment was suggested in other cases of phlebitis.

"The Lesions of Enteric Fever as an Occasional Cause of Permanent Injury to Nutrition" was spoken of by Dr. Clifford Allibutt. He drew attention to the convalescence from enteric fever, which is well known to be often so tedious; and he raised the question whether the specific lesions of that disease, affecting as they do the instruments of absorption, might not sometime be the cause of permanent marasmus. In enteric fever the local mischief falls not only upon the patches of Peyer in the ileum, but spreads itself throughout the network of the mesentery. If a rat be fed upon tallow candles and then killed, the presence of fat in great quantities in the mesenteric network and glands shows how active is that system in taking up this element of nutrition. Any disease, therefore, within it, or chronic peritonitis outside it, would have its visible effect in

*These cases are tabulated in the Thyrotomy table in the author's "Essay on Growths in the Larynx." In this table, however, the result of case 27 is entered as 'not stated,' but since the publication of the volume of Dr. S. Cohen has informed the author that the result "was complete restoration of voice."

hindering the absorption of fat and in preventing the laying on of adipose tissue. These considerations occurred to the author in consequence of his advice being sought in several cases of marasmus, pure and simple, without local disease, without fever, and without adequate loss of appetite. In all of those a severe attack of enteric fever had preceded the marasmus. The patients, who were almost denuded of adipose tissue, had, previous to the attack of fever been in good health.

DIAGNOSIS OF PHANTOM ABDOMINAL TUMORS.—In an interesting clinical lecture published in the *Medical Times*, Dr. J. M. DeCaster states that the most efficient mode of diagnosing phantom tumors of the abdomen is by the use of an anæsthetic. When under the influence of ether, a phantom tumor must disappear, and thus remove all doubt as to the nature of the case. He says, "not in a single instance have I found these apparent tumors remain when the patient is under the influence of ether or chloroform, though they reappear, and quickly, when he passes from under its influence." Thus, we can control the diagnosis not only of phantom tumors, but muscular contractions of the abdomen, not unfrequently feigned, and which high authority declares a source of difficulty almost impossible to get over."

ACUTE SYNOVITIS—INCISION INTO THE JOINT.—Mr. J. R. Jessop, F. R. C. S., in a lecture published by the *British Medical Journal*, states that he lately successfully followed Prof. Lister's plan, and incised into the knee joint of a patient aged twenty years, who suffered from acute synovitis, after the ordinary treatment adopted in such cases had been tried, *i. e.*, rest, leeches, ice, evaporating lotions, salines, etc., etc. Mr. Jessop made an opening into the joint, and in the axis of the thigh, commencing one inch above the patella, the opening was an inch long, but had to be enlarged to one and a half inches to allow flakes of lymph to pass through, which were suspended in from eight to ten ounces of clear fluid. From the time the incision was made the excruciating pain ceased, the fever disappeared, the swelling never returned, and the patient was sent from the Leeds Infirmary to a convalescent hospital with a movable painless joint within a month from the time of the operation.—*The Doctor*.

EXCISION OF THE LATERAL HALF OF THE TONGUE.—

Dr. George Buchanan reports three cases operated upon by him in the Glasgow Infirmary for chronic disease of the tongue simulating cancer. An incision in all three cases was made through the center of the lower lip down to the hyoid bone, then the lower jaw was sawn through; a piece of string was next passed around the divided sides to hold the jaw apart. The muscular attachments of the tongue were severed and the organ was drawn well forward. An incision was then made down the center of the tongue to the base, and then by a slight curve of the knife, the remaining attachments of the affected side were severed and it was removed. Hemorrhage was promptly checked by tying the lingual artery. The wound was sponged with a solution of chloride of zinc, and the jaw was held in place by boring a hole through each side and passing through a silver wire and twisting it off. In all of the cases the speech was quite intelligible after recovery.—*Ed. Medical Journal.*

THE PRUSSIAN SIEGE OF PARIS.—The profession has been put in possession of a few particulars in regard to the bearings of the first or Prussian Siege of Paris, in hygiene and surgery, a paper by Dr. Gordon, C. B., on the subject having been read before the British Medical Association at Plymouth, a few weeks ago, and more recently published at length in the journal of that body. Dr. Gordon, alluding to the physique of the men who were drafted into the battalions formed in Paris, in the vain hope of resisting the approaching powerful enemy, remarks that they were in a great measure undeveloped lads, unsuited in bodily strength for the hardships of a campaign. The clothing supplied to them, although apparently of good quality, was insufficient in quantity; food, scarce almost from the commencement of the siege, was altogether insufficient in quantity long before the capitulation took place, while at the same time fuel became a thing almost unknown, and all this in a winter of unusual severity, so that the sufferings of the troops must at times have been very great. A new and unexpected question is raised in reference to preserved or tinned meats, the suitability of which as food is doubted by Dr. Gordon, whose remarks upon the subject almost seem to receive

confirmation in the reports from the camps of the autumn manœuvres supplied to the daily press by correspondents. Dr. Gordon, aware of the importance of the question, writes cautiously in regard to it, but considering the suggestive bearing it has to long sea voyages and to future campaigns, it will it is hoped obtain further attention.

It would seem that the male nurses in the Paris hospitals were neither well-informed in regard to their duties, nor desirable attendants in other respects. There appeared to be some considerations however, which led Dr. Gordon, while writing in respectful terms of the female nurses, to suggest their unsuitableness for military hospitals, and he would accordingly have them replaced by well trained and respectable men.

The great mortality among the wounded is alluded to, and mortality to which several conditions seem to have conduced, such as improper and insufficient accommodations, previous hardships, cold, and insufficient food, and inadequate support in hospitals, *vin de Bordeaux* and *confiture* taking the place of beefsteak and porter. The question of conservative surgery is also glanced at, the impression evidently being that rules have yet to be laid down as to the conditions in which its practice should be adopted, as well as those for which its requirements are unsuited.—*The Doctor*.

BOOK NOTICES.

A Memorial of Midwifery, including the Signs and Symptoms of Pregnancy, Obstetric Operations, Diseases of the Puerperal State, etc., etc. By Alfred Meadows, M.D. London. First American, from the second London edition. Published by Lindsay & Blakiston, Philadelphia. For sale by S. C. Griggs, Chicago.

This is a small octavo volume of 473 pages. In the first part the physiology of conception and gestation, with the development of the ovum from the time it leaves the ovisæ to its full maturity, together with the coincident changes occurring in the uterus, are considered. The second part embraces the whole subject of pregnancy : its signs and symptoms, its dura-

tion, and the various deviations from what may be called normal pregnancy, including the various forms of extra-uterine gestation and of displacements of the gravid uterus.

The third part treats of natural parturition, the classification of labors, and the phenomena and management of natural labors. The fourth part brings under review the various obstetric operations which are necessitated by the different emergencies described and illustrated in Parts V. and VI, under the heads of unnatural and complex labor. Lastly, some of the principal diseases of the puerperal state are described in Part VII.

This systematic arrangement of subjects, and the concise, practical style in which it is written, make the work especially valuable as a students' manual, while a very full table of contents and index render it easily accessible as a work of reference.

Handy-Book of the Treatment of Women's and Children's Diseases, according to the Vienna Medical School, with Prescriptions. By Dr. Emil Dilluberger. Translated from the second German edition, by Patrick Nicol, M. B. Philadelphia: Lindsay & Blakiston.

In this little volume we have presented, in a condensed form, a considerable number of valuable suggestions and directions in regard to the treatment of women's and children's diseases.

A Treatise on Localized Electrization and its Applications to Pathology and Therapeutics. By Dr. G. D. Duchenne. Translated from the third edition of the original, by Herbert Tibbets, M. D. With numerous illustrations, and notes, and additions, by the Translator. Philadelphia: Lindsay & Blakiston, Publishers. For sale by Cobb, Andrews & Co., Chicago. Price \$3.00.

To all readers of French medical literature, Duchenne's great work on Localized Electrization is already familiar. It is now, however, for the first time rendered accessible to the general profession by means of an English translation.

The original work constitutes not only an exhaustive treatise on the medical uses of electricity, but is also an elaborate exposition of the different diseases in which electricity has proved to be of value as a therapeutical and diagnostic agent. A third edition is now in process of passing through the press, and the volume before us includes all that part of it which had been printed at the time of the investment of Paris by the German army.

The additions by the translator have been made with special reference to the requirements of English medical practitioners, and particularly with a view to facilitate the practice of medical electricity.

The Functions and Disorders of the Reproductive Organs in Childhood, Youth, Adult Age, and Advanced Life, considered in their Physiological, Social, and Moral Relations. By William Acton, M. R. C. S. Third American, from the fifth London edition. Philadelphia: Lindsay & Blakiston, Publishers.

This standard work is already well and favorably known to the profession, through its former editions.

Practical Therapeutics, considered chiefly with reference to Articles of the Materia Medica. By Edward John Waring, M. D., F. L. S. Second American, from the third London edition. Lindsay & Blakiston, Publishers. Price, cloth, \$5.00; sheep, \$6.00.

This valuable work has been thoroughly revised, and to a great extent re-written. The many new and important therapeutical facts and discoveries which have been developed within the last few years, necessitated the addition of a considerable amount of new matter. By a careful abridgement and consideration of certain portions of the work, however, space has been made for these additions, without any increase in the size of the volume.

Among the new articles considered are chloral, bromide of mercury, iodide of methyl, protoxide of nitrogen, sandelwood oil, etc.

Extended notices are also given of such articles as bromide potassium, Calabar bean, carbolic and sulphurous acids, permanganate of potash, and the alkaline hypophosphites and hyposulphites, which, although not strictly new, have only of late years had their claims, as valuable and important therapeutical agents, fully recognized.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A. M., M. D. Fourth edition. Revised and improved. Philadelphia: Henry C. Lea, Publisher.

This standard work of Prof. Hamilton's is, we believe, almost the only complete and exhaustive treatise on the subject in the English language. It is a volume that should be in the possession of every medical practitioner who undertakes to deal with this troublesome branch of surgery. With it at hand for reference, and to fall back upon as authority in case of need, and with the exercise of a moderate degree of care and skill on the part of the physician, most of the troublesome and disagreeable mal-practice suits, to which this class of injuries so frequently gives rise, might be avoided.

No essential alterations appear to have been made since the former editions.

The name of Henry C. Lea as publisher is of itself a sufficient guarantee of the excellence of the mechanical execution of the work. Clear, legible type, good paper, and substantial leather binding being the invariable accompaniments of all volumes received from that house.

Headaches: Their Causes and their Cure. By Henry G. Wright, M. D., etc. From the fourth London edition. Lindsay & Blakiston, Philadelphia.

This little work, which has been for some time out of print, is already well known to the profession, and requires nothing more than the mention of its re-issue to insure to it a favorable reception.

EDITORIAL.

EXPLANATION.—The present number of the EXAMINER was just ready for delivery, but had not been sent out of the printing office, which was located in the North Division of the city, when the great fire occurred. It was consequently destroyed so completely that not even a scrap of the original manuscript was left. Some of the articles were soon reproduced and others substituted with a view to a speedy re-publication. But the fire had destroyed every press in the city in which book and medical journal work could be printed. We have waited patiently five or six weeks in the hope that our old printers would be ready to resume their work, but have at last been obliged to send to Ann Arbor for the printing of the present number. The November and December numbers will follow in quick succession, and by the first of January we expect to be on time with the first number of the new volume.

The subscription list and all the books belonging to the EXAMINER were preserved. We hope old subscribers who are in arrears will immediately pay up, and new ones send in their names for the next volume.

MEDICAL COLLEGES IN CHICAGO.—The Chicago Medical College, Medical Department of the Northwestern University, is located in the south part of the city, in the same block with the Mercy Hospital, and was entirely out of the reach of the fire; and as the students of this College were boarding in the same section of the city, they also escaped all injury or loss. Although Professors Isham and Byford suffered severely, losing both their residences and offices, and some of the other members of the faculty suffered minor losses, yet the regular lectures in the College were suspended only one day, and even on that day while the fire was raging with all its fury, Professor E. Andrews attended his clerical hour in the hospital and performed several operations in the presence of a large part of the class. The hour for these operations had been previously

fixed, and their performance, together with the resumption of the full course of lectures the following morning, was not from any want of interest in the results of the fire or in the welfare of the community, but from the conviction that one of the most efficient modes of preventing demoralization and discouragement, when some great calamity has overtaken a community, is, for every man who has anything to do and a place left to do it in, to continue dilligently at his work, and employ as many others in the same way as possible. The class in attendance is fully equal to that of any previous year.

The Rush Medical College, being located in the North Division of the city was entirely consumed with all its contents. Several members of the faculty suffered very severe losses, and many of the students boarding in the vicinity also lost their books and clothing. Of course their lectures were suddenly suspended. On the next day after the fire their faculty were officially notified that all their matriculated students would be permitted to attend the lectures of the Chicago Medical College free of charge, until the faculty could procure new rooms in which to resume their lectures. And in case they did not deem it advisable to resume the present term, all their students who had actually paid their lecture fees were offered the privilege of completing their course in the Chicago Medical College without further charge.

In about two weeks the Faculty effected an arrangement by which they resumed their regular course of instruction, in the amphitheatre of the County Hospital. A large part of their students returned, and so far as we know, their work is progressing satisfactorily. In the present number of the *EXAMINER* will be found an appeal from the Visitors of that school, to its Alumni throughout the country, for aid to rebuild the College. We hope it will meet with a liberal response.

The Woman's Hospital Medical College was also burned out. Occupying temporary rooms and a recently organized institution, it had not much property to lose, and soon resumed its course of instruction in temporary quarters in the West Division of the city,

RELIEF FOR MEDICAL MEN—CHICAGO, October 19, 1871.
—At a meeting of Physicians held on the 17th inst., at No. 797 Wabash avenue, of which Dr. N. S. Davis was made Chairman, and Dr. E. Andrews, Secretary; the announcement having been made that communications had been received from prominent Physicians of other cities, to the effect that contributions, for the relief of the suffering members of the profession here, are now awaiting the order of responsible parties to receive and disburse them. Drs. Moses Gunn, E. Andrews and A. Fisher having been appointed a committee to recommend suitable persons for a permanent Relief Committee of five, nominated the following gentlemen: Drs. N. S. Davis, DeLaskie Miller, Ernst Schmidt, T. D. Fitch and Walter Hay, which nominations being unanimously approved, the following resolutions were adopted:

Resolved, That the Committee just chosen is hereby authorized to receive all donations for the relief of the respectable Physicians, who are sufferers by the late fire, distribute the same at their discretion, and render a strict account, with vouchers, to any future meeting, which may be called by the Chairman, to consider the same.

Resolved, That this meeting tender the cordial and heartfelt thanks of the profession of this city to their brethren in other and distant cities, for the prompt and liberal offers of assistance to the many among us who have lost, by the late terrible fire, not only their homes, clothes, books and instruments but their practice, and pledge a just use of whatever is given.

Contributions may be forwarded at once by express, or draft on New York, to Walter Hay, M. D., Secretary Medical Relief Committee, No. 384 Michigan Avenue.

Donations from publishing houses, instrument makers and physicians, of books, instruments, or apparatus, will be gratefully received; as many of our professional brethren have saved only their lives.

DE LASKIE MILLER, M. D.,	}	Committee.
Mo. 518 Wabash Avenue, Chairman.		
N. S. DAVIS, M. D.,		
No. 797 Wabash Avenue, Treasurer.		
ERNST SCHMIDT, M. D.,		
No. 387 State Street.		
T. D. FITCH, M. D.,	}	
No. 296 West Monroe Street.		
WALTER HAY, M. D.,		
No. 384 Michigan Avenue, Secretary.		

Up to the date of this writing, November 18th, the above Committee had received \$6,788.00, chiefly from New York, Brooklyn and Cincinnati; all but \$1,000 of which has been distributed among some seventy-five members of the profession who had suffered severe losses by the fire. The sums given to individuals have varied from \$30 to \$135. In addition to this, the profession in St. Louis promptly contributed \$900, which they sent in the hands of a committee of their own number, which committee apportioned it in sums of \$50 each to eighteen of our physicians who had suffered most severely and were in most urgent need of aid. As near as we can learn, there were about one hundred regular physicians in good standing who lost almost everything in the shape of books, instruments and office furniture, and about half of them their residences and all the available property they possessed. Some of them had been doing laborious professional work for twenty and thirty years. Yet all are in good cheer, and more anxious to alleviate human suffering than to replenish their own pockets. What they feel most keenly the need of is books and instruments. Good, well assorted pocket-cases of surgical instruments and standard works on the practical departments of medicine would be highly acceptable to the afflicted part of the profession.

CHICAGO, NOV. 1, 1871.—TO WHOM IT MAY CONCERN.—This is to certify, that the resident Alumni of Rush Medical College, of the city of Chicago, at a meeting held at the house of E. Ingals, M. D., on the eve of October 17, 1871, appointed the following Alumni an Executive Committee, to draft and present an appeal to the Alumni and friends of the College, for aid to rebuild and refurnish the College Building, viz: T. D. Fitch, M. D., Chairman; H. A. Johnson, M. D., V. L. Hurlbut, M. D., C. T. Parkes, M. D., Ben C. Miller, M. D., and F. A. Emmons, M. D.

E. INGALS, M. D., Chairman.

CURTIS T. FENN, M. D., Secretary.

AN APPEAL TO THE ALUMNI AND FRIENDS OF THE RUSH MEDICAL COLLEGE, RECENTLY DESTROYED BY FIRE, FOR AID TO ASSIST IN ITS REBUILDING.—This College is among the oldest institutions of learning in the northwest, having been in operation since 1843, at which time the region now tributary to Chicago was but sparsely populated, and had little wealth. During this time it has supplied a pressing need of this new country. It has educated a large number of young men, who are scattered through our whole country, worthily filling places of great usefulness and responsibility; and for this, both themselves and the public are indebted, in a great measure, to the school in which they received their instruction. A large proportion of its students have been possessed of little, save youth, hope, intelligence, and determination. Many of these, having been generously aided by the College, have taken rank among the most substantial members of the profession. The Faculty at all times, since its organization, has been moved by an earnest desire to promote the best interests of the profession and the College. For this its members have labored faithfully and earnestly; they have met the pecuniary burden of the school from its first foundation, and four years since they erected from their own resources, at an expense of \$70,000, the most ample and best appointed college building on this continent, and filled it with every necessary appliance for successful teaching, and the influence and usefulness of the school has steadily increased from year to year. But in a day, the college building, with all its contents, was swept away, along with a large part of the city, in which it stood a peer among many other noble institutions of learning. The pecuniary loss of the Faculty, in the destruction of the college, is light when weighed against others they have sustained. A number have lost nearly everything, and all have suffered much. The college must be rebuilt. Its past history, its future promise for good, demand no less. Under the circumstances, it is unreasonable to expect the faculty to do this unaided. The college is now in a condition to justify an appeal to its Alumni, and to society, for some return for the favors it has conferred upon both. There is, perhaps, no field

of benevolence, that offers a richer return than to provide adequate and easy opportunities for instruction to those who desire to become learned in the best means for assuaging pain and healing the sick.

All donations may be remitted to Charles T. Parkes, M. D., 462 Elston avenue, Chicago, who has been elected treasurer for the fund. They will be thankfully acknowledged, and faithfully devoted to the rebuilding of the college.

MEETING AND ORGANIZATION OF THE COMMITTEE.—At an appointed meeting of the Executive Committee, held at Cook County Hospital, October 26th, 1871, all the members being present, Dr. T. D. Fitch, in the chair, the committee organized by the election of the following officers: F. A. Emmons, M. D., Secretary; Ben C. Miller, M. D., Assistant Secretary; C. T. Parkes, M. D., Treasurer, who was required to give good and satisfactory bonds in the sum of thirty thousand (\$30,000) dollars, for the faithful performance of his trust, which bond has been furnished and duly accepted.

T. D. FITCH, M. D., Chairman.

F. A. EMMONS, M. D., Secretary

THE TRUSTEES OF RUSH MEDICAL COLLEGE TO ITS ALUMNI, GREETING.—The last terrible conflagration which devastated so large and fair a portion of Chicago, swept out of existence nearly all of the material part of your Alma Mater. Rush Medical College exists to-day only in its legal organization, the lot on which the College building stood, the energy of its Trustees and Faculty, and the love and fidelity of its Alumni.

The College edifice, so recently and expensively erected, the chemical and physiological laboratories, the museum, and all the appliances of teaching, are gone, and a sad material ruin replaces them.

The Trustees are, however, cheered and encouraged by the expressions of sympathy and offers of pecuniary assistance which have come to them from many of the Alumni, in differ-

ent parts of the country. The Alumni in Chicago have appointed a committee, to appeal to their brethren, in behalf of their Alma Mater. This appeal the Trustees most heartily approve and endorse; and while all sums which may be offered will be most thankfully received, they are confident that fortune has smiled upon very many of the sons of "Old Rush," and that among these favored ones there are generous hearts, which will prompt to munificent donations. To such they make the following offer:

For every donation of five hundred dollars the Trustees will establish a perpetual free scholarship, which shall bear the name of the donor, and which shall be conspicuously emblazoned on the wall of the lecture room. A certificate of this scholarship, engrossed on parchment, will be issued to the donor; which certificate shall secure to the bearer, free tuition, and when found qualified, free graduation. This certificate shall be perpetual in its operation; and thus the donor will have endowed for one student each year a Free Medical College.

WM. B. OGDEN, Chairman.

GRANT GOODRICH, Secretary.

EFFECT OF CHLORAL HYDRATE ON THE BLOOD.—The London Microscopic Journal for August, 1871, contains an account of a number of experiments, made by Thos. S. Ralph. M.R., C.S., with a view of determining the chemical effects of Chloral Hydrate, Chloroform, Prussic Acid, and other agents, upon the blood.

The writer says: "Hydrate of chloral is a remarkable chemical substance, producing a singular effect on the blood when applied directly to it. A small portion being placed on a glass slide and slightly moistened, and then fluid blood added about one-third of the corpuscles appear to corrugate their solid contents, which then takes colour from magenta.

"In the following October I had occasion to administer chloral in small doses, with a view of relieving pain. This enabled me to examine the condition of the blood. The blood drawn two or three hours after its exhibition, presented a re-

markable appearance. In several parts of the field of the microscope, besides garnet-coloured amorphous particles, a number of red-coloured globules (double the diameter of white corpuscles, and many smaller) were seen; some of them were dark red. This was experiment the first.

Experiment 2—Hydrate of Chloral was exhibited by the stomach to a rabbit; within an hour red masses were seen in the blood, also the presence of starchy bodies was noticed.

Experiment 3—A frog was subcutaneously injected with chloral hydrate, with the same results.

Experiment 4—A frog was immersed in a four-grain solution of the hydrate for some hours, when it was found hypnotic. Blood nuclei of corpuscles appeared greenish, red particles also seen.

Experiments 7 and 8—Two rats were killed, one by chloroform, the other by hydrate chloral, injected subcutaneously. In the latter the blood exhibited ruby-red particles; a few bluish; also starchy bodies in abundance. The urine also showed the same. The chloroformed rat presented an abundance of starchy bodies, and some blue-coloured particles; blood from lungs—plasma reddish; few starchy bodies; some blue particles; scarcely any reddish."

After detailing, in this manner, a large number of similar experiments the writer sums up his conclusions as follows:

"Hydrate of chloral administered by the stomach or subcutaneously injected, gives rise to the production of bright red or dark red particles, masses, or globules in the blood. Starchy bodies are also met with accompanying these changes. The urine also exhibits these bodies. The same result follows when vapor of chloral hydrate is applied to fresh drawn blood. Ammonia, administered by the lungs or subcutaneously during the action of chloral on the animal economy appears to heighten these effects.

Formic acid added to fresh blood also causes the production of dark red globules and particles.

Lactic acid conjoined with prussic acid does the same.

Prussic acid and ammonia conjoined yield the same results.

The action of hydrate chloral, while decomposing under ammonia or a salt of iron, presents changes which to my mind are identical. All these results I refer to the action of formyl or ammonia-formate on the iron of the blood. The decomposition of lactic acid with prussic acid can supply chemically the elements necessary for the production of formyl or formate of ammonia; as also prussic acid and ammonia."

Another remarkable occurrence is mentioned which receives its solution from the forementioned experiments. "Some blood was accidentally examined after wine (Reishing) had been taken; this was with a view of exhibiting the action of prussic acid on the iron in the blood; but it was noticed little or no reaction could be found after its application; but a good many red-coloured globules and particles were seen just as if chloral had been taken. In consequence of this, a small drop of urine was added to a little blood fresh drawn; the changes seen under the microscope were most remarkable. Abundance of globules of a dark-red or brown colour made their appearance, as also red amorphous masses or particles. Gas also was given off in the neighborhood of the globules. Some of these bubbles contained a bluish fluid; the nuclei of the white corpuscles were bluish.

The experience I have already gained in carrying out these experiments leads me to see that the condition of the blood recognizably varies from day to day, from the effects of food, etc.; for the varying degrees of success which have attended a number of experiments performed with the same chemical agent, on the same individual, point to the great probability of the variable condition of the blood, when that individual has been the subject of variety in diet, or degrees of fatigue of mind or body."

In concluding he says, "another consideration which presents itself to my mind is, that just as we now test the condition of the urine in order to ascertain what is being eliminated from the body of a patient, so will the physician find it useful occasionally to test, by means of reagents, the condition of the

blood of his patient, in order to verify the character of some obscure symptoms. Even at this period of my experience, I have reason to believe it is possible by means of agents previously administered, to prolong the hypnotic action of chloral, or to prevent or modify it in a great degree. Thus, I believe, I have at least been able to give demonstration to the theory of Leibrich, who, by his chemical knowledge, has enabled the medical practitioner to employ a remarkable agent, one which promises to be a sister companion to chloroform in alleviating the ills to which flesh is heir. I hope I may be fortunate enough to arouse the attention of my professional brethren to the investigation of the chemical action of remedies on the blood, and thereby, perhaps, lead on to a more rational and satisfactory mode of treating some diseases, which in time to come, I believe will be attacked through the blood itself."

PUBLICATIONS RECEIVED.

Plastics and Orthopedics: A Report re-published from the *Transactions of the Illinois State Medical Society for 1871.* By David Prince, M. D.

The report on Orthopedics made to the Illinois State Medical Society by Dr. Prince, in 1864, and his report on Plastics, made in 1867, were attempts to make the knowledge of these important branches of surgery more easily accessible to the profession. The present report is a continuation of this effort, such additions having been made as to include all the recent advances.

Transactions of the Indiana State Medical Society. Twenty-first Annual Session. 1871.

This is a handsome volume of 250 pages, containing a number of valuable and interesting reports. A finely executed likeness of the late John S. Bobb, M. D., with a short biographical sketch by G. W. Mears, M. D., also adds much to the value of the volume. We shall take occasion to give a more extended review of some of the reports in a future number.

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Besides the peculiarity of these medicines, that they are *not liable to spoil by any length of time* they may be preserved, they recommend themselves to Physicians: first, because they may be administered instantaneously when ordered; and second, because they are perfectly reliable in their efficacy on account of their accurate preparation. At the same time the *Divided Medicines* claim this superiority over otherwise prepared medicines, that they may be administered to the tender babe as well as to the decrepid old man, in an easy and agreeable manner, it being simply necessary to put into a tablespoonful of water and swallow down, without experiencing any disagreeable taste.

Gentlemen of the Profession, practising in the country, will welcome these medicines gratefully, as being easily transportable, enabling the Physician to furnish the sick directly at their professional calls with good accurately dosed medicines; and that these medicines have the superiority of being cheaper than any others, as seen by the schedule of prices.

Should any gentleman of the profession wish to get these *Divided Medicines*, according to his own prescriptions, stating accurately weight and doses to one of our agents, or send the same, as below, he will receive the medicines in any number desired, (though not below 100 squares,) within 4 days.

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THE DIVIDED MEDICINE CO.,

BOX 2388,

Or FREDERICK KRAUS, Chemist and Druggist,

Walnut Hills, Cincinnati, O.

MR. FREDERICK KRAUS:

CINCINNATI, Feb. 15, 1871.

Dear Sir.—The specimens of your “*Divided Medicines*,” handed to me for analysis, I have carefully examined, and would report that I find all the specimens to contain the substance they are said to contain, in the quantity specified in each, viz:

Sulph: Morphine... $\frac{1}{6}$ gr. in each sq.	Arsenic Acid..... 1-20 gr. in each sq.
Chinin..... 1 “ “	Calomel..... $\frac{1}{4}$ “ “
Copper..... $\frac{1}{2}$ “ “	

Respectfully yours,

E. S. WAYNE, Analytic Chemist.

DETROIT MEDICAL COLLEGE,

SESSION OF 1872.

FACULTY:

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 J. M. BIGELOW, M. D., Emeritus Professor of Medical Botany and Materia Medica.
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 JAMES F. NOYES, M. D., Professor of Ophthalmology and Aural Surgery.
 N. W. WEBBER, M. D., Professor of General and Descriptive Anatomy.
 RICHARD INGLIS, M. D., Professor of Obstetrics.
 HON. HENRY B. BROWN, Professor of Medical Jurisprudence.
 A. B. PALMER, M. D., Professor of Medical Diagnosis and Clinical Medicine.
 ALBERT B. LYONS, M. D., Professor of Chemistry and Toxicology.
 W. H. LATHROP, M. D., Professor of Diseases of Mind and Brain.
 LEARTUS CONNOR, M. D., Professor of Physiology and Microscop. Anat.
 H. O. WALKER, M. D., Demonstrator of Anatomy and Lecturer on Venereal Diseases.

The College Term will begin on MARCH 20th, and continue four months. The Fees are as follows: Matriculation fee, \$5; Hospital fees, \$6; Lecture fees for first and second Course students, \$50; Lecture fees for third Course students, \$35; Graduation fee, \$25. Daily Clinical instruction.

For Catalogue, or further information, address,

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2-9-5

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 JOS. W. FREER, M.D., Prof. of Physiology and Microscopic Anatomy.
 J. ADAMS ALLEN, M.D., LL.D., Prof. of Principles and Practice of Medicine.
 E. INGALS, M.D., Prof. of Materia Medica and Medical Jurisprudence.
 DELASKIE MILLER, M.D., Prof. of Obstetrics and Diseases of Women and Children.
 R. L. REA, M.D., Prof. of Anatomy.
 MOSES GUNN, A.M., M.D., Prof. of Principles and Practice of Surgery and Clinical Surgery.
 EDWIN POWELL, M.D., Prof. of Military Surgery and Surgical Anatomy.
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